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A PHANTOM OR MODEL FOR ILLUSTRATING HERNIOTOMY AND SUTURE WORK ON THE ABDOMINAL PARIETES.*

BY E. WYLLYS ANDREWS, M. D., CHICAGO.

In closing a wound in the abdominal wall, we usually sew the layers separately. This is one of the hardest things to show a class of students, or an audience of physicians, so as to be visible beyond the front row of observers. I have often thought that with cloth laid in successive layers it would be easy to imitate the fascia of the abdominal wall, so as to practice and illustrate the various stitches used, so to say, in a diagrammatic way.

Such arrangement bears the same resemblance to the anatomy of nature that a diagram does to an accurate picture of the organs. It is all the more useful, because different from, and simpler than nature, and also usually because it is larger and coarser. I would disarm criticism on the want of accuracy of my phantom by saying that it is intentionally inaccurate, and hence for my purpose more useful. But, while layers of red flannel, worsted, jersey-cloth, canvas, etc., do not imitate nature except by the help of the imagination, they can be superposed so as to represent the fascia and musculature of the abdominal parietes in a very suggestive way, and we can easily use them for make-believe operations, and get much instruction for ourselves and others with the needle and thread in various styles of closure. With large darning or upholsterers' needles and colored strings, we can put in stitches that are easily seen across a large room. We can show, for instance, how all the layers can be closed in one suture, or can separately close the "peritoneum," or use a separate line for each fascia, or can illustrate the figure-of-eight or the quill suture. I am willing to confess that I have found some, perhaps you will say childish, pleasure in these make-believe or phantom operations. I am not sure but I have been considerably helped by them to new ideas.

To mention one, there is nothing that will convince one quicker of the value of the imbrication idea, which I have advocated for the past ten years in herniotomy and laparotomy, than this experiment with cloth, because as a matter of fact it is one of the oldest known principles of joining fabrics, where added strength is needed.

This model I have shown in several medical societies and in numerous clinics, and have upon inquiry found that it helped greatly to illustrate the suture methods. In Fig. 4 we see the layers arranged to demonstrate the Bassini operation in its first or deep row of stitches. Fig. 5 shows the second row uniting the external oblique aponeurosis.

Fig. 2 shows the writer's imbrication operation, a plastic method of strengthening the lower abdominal wall by sliding down and implanting a layer of the external oblique.

Fig. 3 shows the second step of this operation, completing the imbrication, and showing the added thickness of wall obtained.

Fig. 1 shows my operation in an anterior method of implantation.

Bergmann and Mikulicz picture this operation, and ascribe it to Girard, of Berne. I published it nearly eight years before the Swiss surgeon. He, however, reports having performed the operation during a considerable number of years before he published it.

Fig. 6 shows how well the ribbed cloth layers of this mannikin lend themselves to other special tricks or wrinkles of the surgical technique. We have here the McArthur autoplastic suture, formed of a slender

*Read at the 54th Annual Meeting, May 17, 1904.

strand of the external oblique aponeurosis, still attached at its upper end and threaded upon needles ready to close the wound.

Discussion.

Dr. Denslow Lewis, of Chicago: The model exhibited by Dr. Andrews for the purpose of illustrating herniotomy and suturing work on the abdominal parietes appeals to me strongly. I have used since 1888 similar models to illustrate operations upon the perineum and cervix, and it is gratifying for me to be able to say that my "phantom perineum" and "phantom cervix" are now used in several medical colleges in different parts of the country.

In 1894 I designed a similar model, made of different colored cloths to be used with the manniken to demonstrate Cesarean section and the Porro operation. This "phantom" is described fully in my "Obstetric Clinic" and was made use of for several years at the Chicago Policlinic and Cook County hospitals, with, I

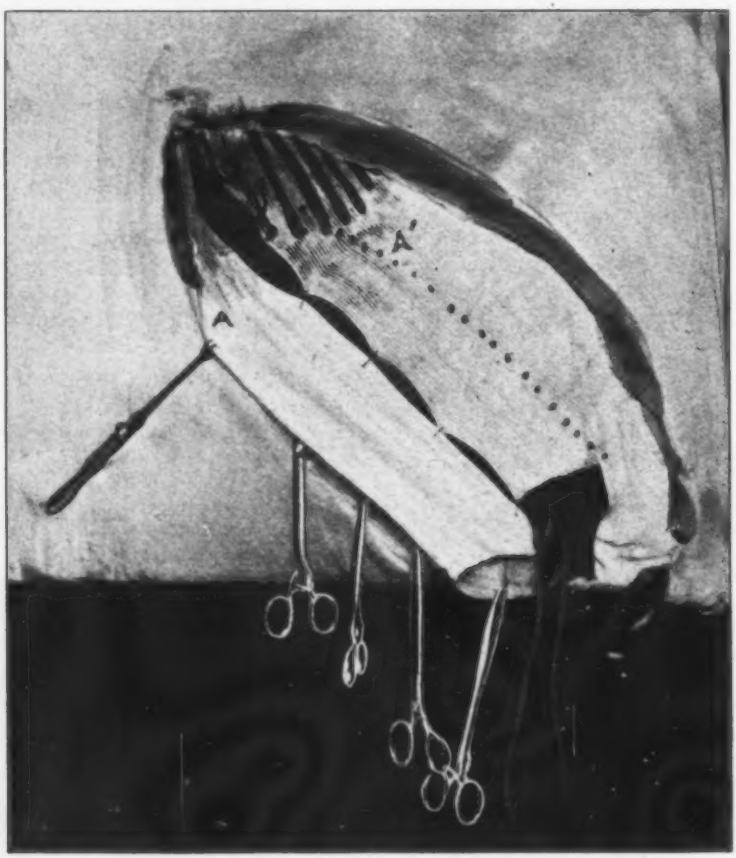

Fig. 1. Size about 20x30 inches. Cushion 5 inches thick. Part represented right inguinal region enlarged about 5 or 6 diameters. Outer layer flesh tinted cloth. Next layer cotton wool ½ inch thick (shown at margin of incision). External oblique represented by ribbed white jersey or sweater fabric running diagonally downward. Internal oblique represented by similar fabric of red color, running obliquely upward and inward. The edge of the rectus and Poupart's ligament are formed by strong seams. "Cord" of colored worsted twisted loosely. Any light fabric can be made to imitate the hernial sac, an inflated inner tube of a bicycle tire is a perfect imitation of the intestine. Ordinarily only the fascial suture work needs demonstrating.

This photograph shows model set to show the Andrews operation (anterior method). The imbrication without displacing the cord. A. Shows the lower segment which will be overlapped to A'.

think I can say, much satisfaction. The method as now applied by Dr. Andrews to teaching how to operate for hernia is, to my mind, most valuable for it is an actual demonstration.

Dr. Albert Goldspohn, of Chicago: I feel thankful to Dr. Andrews for devising this model, because it is just exactly the thing I need to demonstrate the technique of my bi-inguinal operation, and with the permission of the members of the Section, I will proceed to do so. (Demonstration.)

Dr. Andrews (closing the discussion).—No case of atrophy of the testicle has occurred in my series of herniotomies, nor have I had a fatal result in nearly six hundred cases. Dr. McArthur, Dr. Eisendrath, and a number of other Chicago surgeons have been using the imbrication operation, and we have now a report of over one thousand cases without a death. Of the exact number of recurrences, I do not know.

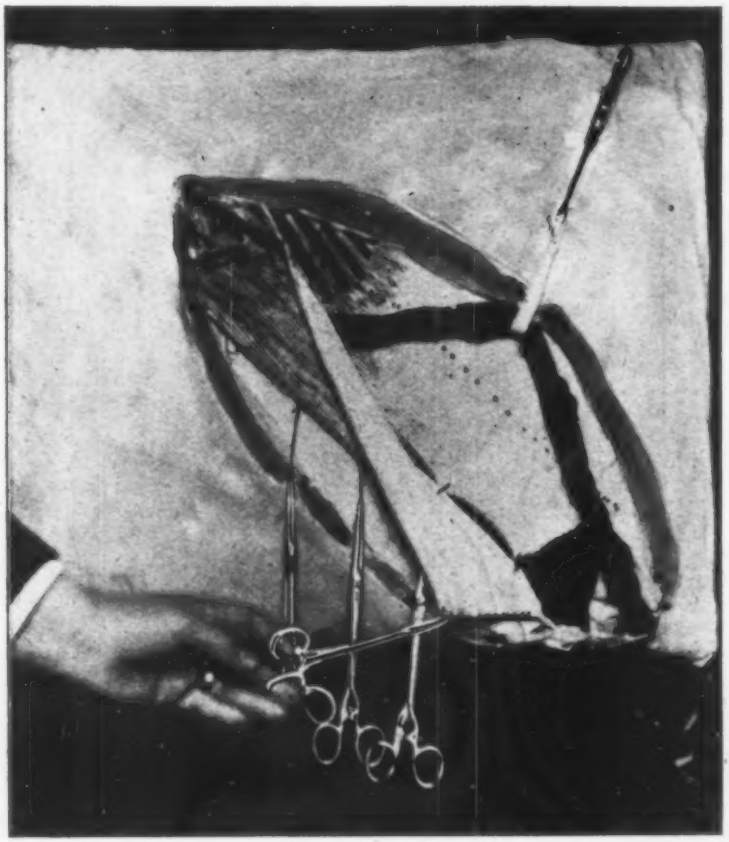

Fig. 2. Andrews Operation with cord between layers. This involves raising the cord as in Bassini operation. Mattress stitches enter behind Poupart's ligament and come out in front of it, drawing down external oblique upper segment as well as deep muscle behind the cord.

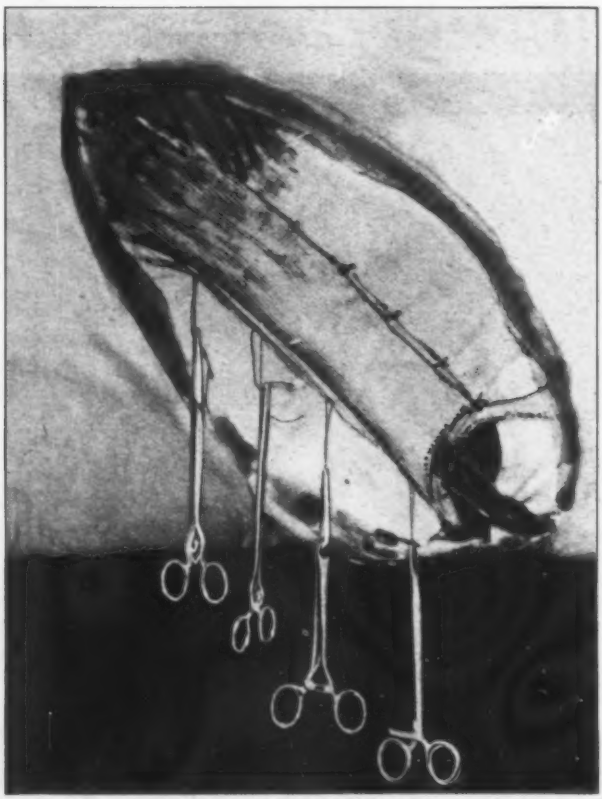

Fig. 3. Andrews Operation. Cord between overlapped layers. Mattress stitches surround Poupart's ligament. Shows how layers are doubled in thickness and also how the outer suture relieves the deep one of part of its tension.

Fig. 4. Model set to teach and practice Bassini operation. "Canal" wide open. Typical deep suture of muscle and conjoined tendon to Poupart's ligament. "Cord" temporarily lifted.

Fig. 5. Bassini Operation. "Cord" replaced. Edge to edge union of external aponeurosis. External "ring" reformed without imbrication.

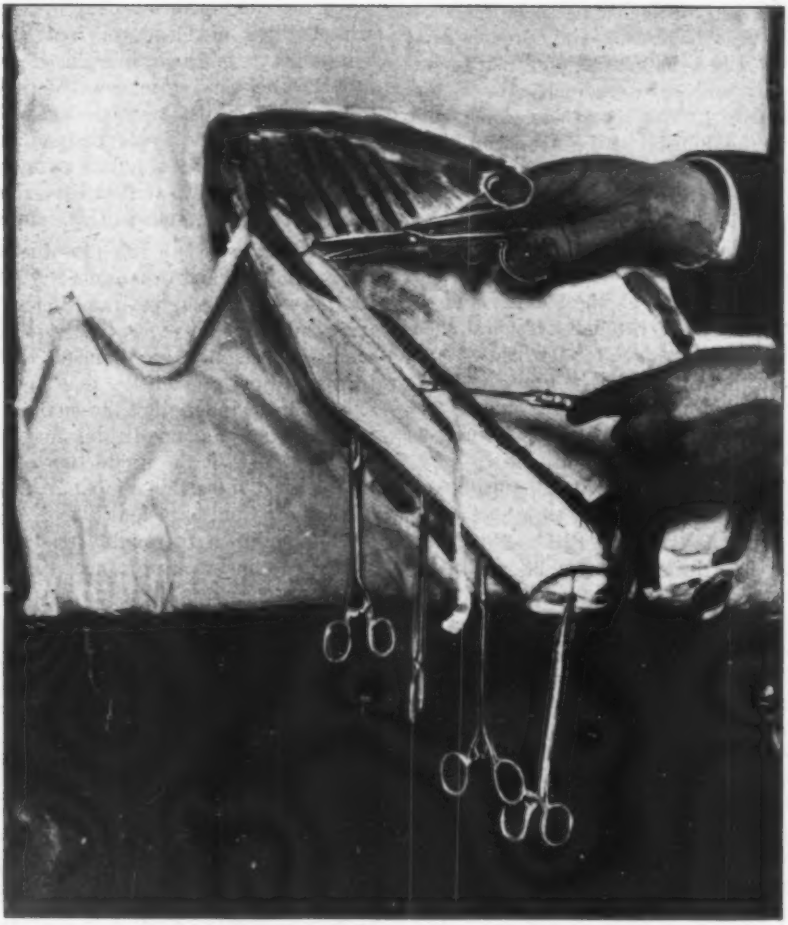

Fig. 6. Model set to show McArthur Autoplastic Suture. Narrow strips cut from aponeurosis used as living suture material.

BRONCHOSCOPY FOR FOREIGN BODIES IN THE BRONCHIAL TUBES.*

BY E. FLETCHER INGALS, M. D., CHICAGO.

On the 3rd of last June, I presented to the American Laryngological Association a report on Oesophagoscopy and Bronchoscopy which described the method and instruments thoroughly and gave succinctly the history of the operation. This report will soon be published in the Journal of the American Medical Association, therefore, I do not need to go into that phase of the subject. At that time I reported some of my cases and briefly referred to others. This evening I wish to report two recent cases of bronchoscopy, one upper, (that is through the mouth) and the other lower, (that is through a tracheal opening) for the removal of foreign bodies from the farther end of the right bronchial tube. These cases are both interesting and I hope that a valuable lesson may be drawn from their consideration.

Case I. On the 21st of June, 1904, I was asked by Prof. Bevan to see with him at the Presbyterian Hospital, a little patient, (I. P.) that had drawn a coffee bean into the lungs. I found a baby 14 months old who two days before admission had inhaled the foreign body. The accident was attended by the usual symptoms of cough and labored respiration. There was no history of previous disease excepting measles and that had occurred several months previously so that it bore no relation to the accident. The child seemed to suffer from pain at times and at the time I saw her had a pulse of 126, temperature 100.2 and labored respiration 62 per minute. There was frequent irregular hacking cough and the babe appeared pale and exhausted. Upon examining the chest, no dullness was discovered upon either side but the respiratory murmur was much diminished over the right lung, the vesicular sounds being scarcely audible. The child was so small that I did not think it would be practicable to introduce my smallest bronchoscope, which measures 8 m.m. in its external diameter, through the larynx, therefore Dr. Bevan and myself decided that it was best to first do a tracheotomy. I once found it impossible because of its size to introduce an intubation tube not more than 5 m.m in diameter into the larynx of a child about the same age. Chloroform was given and the operation done by Dr. Bevan without loss of blood or any untoward symptoms. I then introduced a small bronchoscope and after swabbing out the mucous several times was able to see the coffee bean at the lower end of the right bronchus. This was of a dark color, round in form, and appeared at first like a bronchial tube that was not sufficiently illuminated.

I was impressed in this examination with the contraction and expansion of the bronchial tubes during the respiratory efforts. The main bronchus in expiration would not be more than one-half the diameter that it was in inspiration, a condition that undoubtedly extends throughout all of the smaller bronchi, even in adults; and one I think that may have much to do with the production of some of the physical signs that we obtain in diseases of the lungs and bronchial tubes. This matter has not been thoroughly studied, but it appears to me to throw new light on the cause of the physical signs, especially in pneumonia where the consolidated lung prevents the bronchi from contracting.

As soon as I had located the kernel of coffee, I introduced Killian's tube forceps and grasped it, but at first it broke off; I immediately seized it again and had no difficulty in withdrawing it. There could have been no possible injury to the parts excepting from the mere contact of the swabs and smooth outer surface of the tube and tube forceps and the operation after completion of the tracheotomy did not consume more than ten or fifteen minutes. The tracheal wound was closed by Dr. Bevan and the child returned to the ward, the pulse being at that time 160, temperature 102 and the respirations 52. At one o'clock next morning the pulse was the same, the temperature 102.2, respirations 56. The child appeared to be sinking, but the cause could not be discovered. At 3.30 in the morning it was thought that possibly some swelling had oc-

*Read before the Chicago Medical Society.

curred about the tracheal wound, therefore it was opened and a tracheotomy tube inserted after which it is stated that the color somewhat improved and the respiration seemed easier. Gradually however, the respiration became more and more difficult. At 5 o'clock in the morning the temperature was found to be 104.2. The child became cyanotic and oxygen was administered until this symptom practically disappeared. About 8 o'clock in the morning gr. 1-120th of strychnia was given but in spite of all that could be done the respiration ceased at 8.05 though the heart still continued to beat for some seconds; afterwards artificial respirations and amyl nitrite were employed but without avail.

Case II. On the 13th of August, Dr. W. J. Calhoun of St. Charles, Illinois, brought in a little patient (E. W. O.) two years of age who had drawn a large grain of corn into the lungs about two months previously. The accident was followed by severe paroxyms of coughing which were persistent for about two weeks; subsequently the cough was somewhat relieved for a time, but severe paroxysms were occurring at night, when I first saw the patient; the child had already lost three pounds in weight but had a fair appetite and good digestion. The pulse was only 90, temperature 98.6, respiration 34. At 2 o'clock in the afternoon we gave the little fellow chloroform and I inserted the bronchoscope through the mouth and larynx but I found a good deal of difficulty in getting it through the glottis, because of the narrowness of the passage. Just before the operation the pulse was 104 and at the end 128. Since the operation in the previous case, I had had made a long slender brass tube which was connected by a rubber tube with a bottle which was exhausted by a pump run by an electric motor. I had made this device because in the case of a young man with a collar button in the lung there had been such a great amount of pus that I was unable to wipe the tubes out fast enough and the operation was greatly delayed by the effort. In the case of this little child I had no difficulty, after passing the glottis, in carrying the bronchoscope down into the right bronchus in the farther end of which I found the kernel of corn somewhat softened and swollen, measuring 8 m.m. in width by 14 in length and about 6 in thickness. With the aid of the slender aspirator tube, which I used both as a probe and to pump out the mucus, I had no difficulty in getting rid of the secretions. I got a fine illumination by the small No. 1 Chicago Electro-Appliance Co.'s lamp which I had introduced down to within half an inch of the end of the bronchoscope, and could then clearly see the small end of the kernel. I grasped it with the Killian tube forcep, but a part broke off at first, but the next time I succeeded in holding it firmly. The kernel was much too large to bring out through the bronchoscope, therefore, I drew it against the end of the tube and then withdrew the bronchoscope and foreign body at the same time. The time consumed in giving the anaesthetic and the operation was 50 minutes.

The child recovered from the anaesthetic rapidly, but there was some difficulty of breathing and a little over half an hour later, there was quite a severe paroxysm of cough and some cyanosis which lasted about 10 minutes. Shortly afterward the pulse was found to be 124, temperature normal, respiration 28. Two hours later the child was resting well. During the evening the temperature rose to 100.6 and the pulse to 140, but respiration was only 30. The next morning the pulse to 140, temperature 101, respiration 28. The following day the pulse and respiration became normal. The child was sent home well on the 3rd day after the operation. A solution of adrenaline chloride 1 to 5000 was sprayed into the throat shortly after the operation. Liquid diet was given for the first 24 hours.

These two cases are presented because of their similarity and with a hope of obtaining some suggestions as to the cause of death in the younger patient. We were unable to secure a postmortem. The history as given by the Interne, Dr. C. B. Davis, is strongly suggestive of a broncho-pneumonia, but the fact that small children do not tolerate tracheotomy very well has led me to suspect that the death may have simply been the result of

shock. The question arises whether in similar cases it would be safer to force the bronchoscope through the glottis so as to avoid tracheotomy, or to open the windpipe and do lower bronchoscopy, the latter necessarily being the easier operation. My experience with the two year old child leads me to believe that with younger children it would often be very difficult to introduce a bronchoscope through the larynx.

The use of the aspirating tube which prevented the necessity of swabbing and which shortened considerably the duration of the operation, appears to me to have been distinctly advantageous in the second case. Killian speaks only of one or two deaths from the operation and considers it very safe, though it is not improbable that death has followed in some unreported cases. Although the tracheotomy was done in this little babe without any untoward symptoms at the time, the history of this operation shows that it may be a source of danger. In patients over two years of age, I believe that the upper bronchoscopy would usually be safer although it is considerably more difficult, and it might prolong the whole operation. Killian frequently uses cocaine only, but I have given chloroform in all cases where I have attempted the removal of a foreign body.

Discussion.

Dr. Norval H. Pierce: Mr. President—I think this is the second successful case that Dr. Ingals has reported, if I am not mistaken. As far as I know, there are very few successful cases of removal of foreign bodies from the bronchial tubes reported in this country. He regards the use of the bronchial tubes as distinctly more dangerous through a tracheotomy opening than through the larynx, not only in young children, but in adults. I have seen Killian use his method in the case of a South American girl, six years of age, who had the whistle of a toy in her right bronchial tube, low down, for something like two months. He made two attempts to remove it. The first attempt lasted an hour and ten minutes; and the second three-quarters of an hour, and although he could see the foreign body very distinctly he was unable to extract it, on account of the swelling that occurred in the bronchial mucous membrane about the foreign body. As he pushed his bronchoscope downward, the mucous membrane, which was very edematous, welled up in front of it, so that when he reached for it with the forceps the mucous membrane got directly in the way of his vision. A third attempt was through an opening in the trachea, and he was I believe successful in removing it. Broncho-pneumonia, I believe, is the usual cause of death in these cases.

With Killian's modified laryngeal tube, I believe that the bronchoscope or the tracheoscope can be made to enter more readily than with the old style instrument. The lamp illumination, such as we get from the Kirstein lamp, seems to me more practical than the lamp which is introduced directly into the bronchoscope, because we need as much room as possible for the manipulation of our instrument within the field of operation and Killian insists on the importance of ceaselessly guiding our manipulations by sight and warns against the danger of breaking this rule.

For diagnostic purposes, Killian uses only cocainization, in adults in examining the esophagus for strictures or tumors in its course, and when examining the larynx and trachea for tumors pressure such as we get from struma and from aortic aneurysm; but otherwise he invariably uses general anesthesia combined with thorough local anesthesia. He likewise uses the aspirating tube for removing the mucous.

Dr. Ingals is to be congratulated on the record which he has achieved in removing these two foreign bodies from the bronchial tubes, and we must all agree that direct laryngoscopy, bronchoscopy and tracheoscopy constitute one of the most brilliant advances in the domain of laryngology, (and it belongs to that domain), which has taken place in recent years.

Dr. J. Holinger: The use of general anesthesia, increases the death-rate from these operations. Fortunately we need general anesthesia very exceptionally. When we have passed the larynx with the bronchoscope tube, there is not so much irritation, and less coughing. Cocainization does not need to go beyond the larynx.

To those gentlemen who intend to go to St. Louis to the Fair, I would draw the attention to the beautiful models of trachea and bronchi, with a complete set of Killian's instruments. The guard will give you a demonstration of the use of the models, one standing up, and the other in a horizontal position.

Dr. Ingals (closing the discussion): Last June thirty-four cases of bronchoscopy had been reported, 19 of which were successful in removal of foreign bodies from the air passages. It is barely possible that some of these were duplicates, but thirty-four were all that could be found in the literature throughout the world. The sixty cases mentioned by Dr. Pierce, are not Killian's own cases, but sixty cases throughout the world. Killian up to last June had reported eight successful cases.

As to the Kirstein lamp, the difficulty with it is that it does not give sufficient light. I tried this lamp in several of my operations, and although while it illuminated the parts fairly well, it did not begin to illuminate them so well as the small lamp passed down into the bronchoscope, and again, unless the room was dark it was difficult or impossible to see. There is

great objection to a dark room when one is giving a patient chloroform; there is objection, too, in the handling of instruments. Therefore the Kirstein lamp is not quite satisfactory for this operation although a similar lamp that would give about four times the light would be very desirable. With any source of illumination it is usually impossible to see the object at the time it is grasped for the forceps cut off the light when a small bronchoscope is used.

With reference to the remarks made by Dr. Holinger as to the sensitiveness of the trachea below the larynx, it has been my experience to find it very sensitive, so that the patient would cough quickly and keep on coughing when it was touched. Although one may anesthetize it sufficiently with cocaine, I doubt very much whether it would be as safe to use the amount of cocaine necessary as it would be to employ chloroform, especially in a child. In the adult I have used cocaine freely, but I have not dared to use as much in little children.

THE PRACTICAL VALUE OF BLOOD EXAMINATIONS.*

BY JAMES B. HERRICK, M. D., CHICAGO.

The programme of this society as it has been planned for the winter includes several papers upon the general subject of diseases of the blood. My remarks tonight are wholly in the way of an introduction to that subject, so that I shall omit entirely details as to technique, etc., and confine myself strictly to the topic of the general value of blood examinations.

Right here let me speak of a few misconceptions regarding blood examinations by the general practitioner, and it is of the blood examinations by the general practitioner and not by the expert or the man who is studying the blood from a purely scientific point of view that I wish to speak. In the first place there seems to be an impression in the minds of some that the instruments necessary for the proper examination of the blood are expensive. This is not true. For the ordinary examination of the blood, instruments are necessary for the estimation of the hemoglobin, the counting of the red and white corpuscles and the proper staining of the blood. The Talquist color test can be obtained for a dollar or a dollar and a half. The other hemoglobinometers range in price from five or six dollars up to about twenty dollars. A blood counting apparatus can be obtained for ten or twelve dollars. The few stains that are necessary are inexpensive, so that I feel sure that for fifteen or twenty dollars a practicing physician can have the instruments necessary for making all the ordinary blood tests, and for fifty dollars an elaborate outfit can be obtained. I assume, of course, that the doctor is the owner of a microscope.

Another objection that is urged is that the technique demands unusual skill. This is certainly not so. With a week's practice one may acquire the technique necessary for making these examinations. Of course, practice makes perfect. But no one need be deterred from doing this kind of work for fear there is some unusual dexterity required.

In the third place, an objection is sometimes urged by the practicing physician that he will not have the necessary knowledge and training that will enable him correctly to interpret what he sees. Again this is not true. A physician of ordinary intelligence with a little experience is soon able to interpret quite accurately what he sees, in just the same way that with a little training he is able to tell what he sees through the microscope in examining a specimen of urine.

The only objection that can hold against the examination of the blood is that the results are unreliable and of no practical value. This objection is again not true. Let us consider now for a moment what are the practical results. But first let me say that there is occasionally met with a misconception in the opposite direction, namely, that some regard the blood examination as giving us conclusive and positive evidence in a large number of diseases as to the nature of the ailments. Now, as a matter of fact, it is only in a very few diseases that the blood examination alone is to be relied upon in making the diagnosis. We may say, for instance, that in malaria and leukemia, one can look at the specimen of blood and without an examination make a positive diagnosis. Just as one may occasionally in a

*An Abstract of Remarks made at the meeting of the West Side Branch of the Chicago Medical Society October, 20, 1904.

specimen of urine without seeing the patient be able to declare that the patient is a sufferer from nephritis. But in most other diseases the examination of the blood is only *one* of the methods of examination that should be employed. In other words, it is merely a confirmatory test. But the value of the examination lies in the fact that this confirmation is often the very point that is lacking in the diagnosis. It is the very point that enables us to speak positively regarding the disease.

Let me give a few illustrations and these illustrations are merely to be taken as types and not as covering the entire ground. For instance, if we are attempting to differentiate between a chlorosis, an anemia of a secondary type, and a pernicious anemia, we are helped very materially by the estimation of the hemoglobin. Thus the chlorotic girl may have a percentage of red blood corpuscles of 60 and of hemoglobin of only 30, while if she were suffering frm pernicious anemia, the percentage might be reversed, that is the percentage of hemoglobin might be 60 and the red blood corpuscles only 30. Here we have a distinct help in the differential diagnosis of these conditions merely by the estimation of the hemoglobin; and further help by the examination of the stained specimen. We are also by the examination of the blood frequently induced to hunt more carefully for hidden causes of an anemia of a secondary type, such causes for instance, as tuberculosis, carcinoma, an obscure Bright's disease. In our cases of chlorosis and secondary anemia, too, we have in the examination of the blood, the best gauge for determining the effects of our remedies.

Suppose in another case on staining the blood we find numerous myelocytes. We here examine with more care for possible leukemia, or remembering that in an involvement of the bone marrow, as for instance in tumor, myelocytes may be present in the blood, we investigate the case more critically for evidence of neoplasm in the bone. Again if in examining the blood, we find an unusual number of eosinophiles, remembering the recent observation of Brown and many others, that in cases of trichiniasis eosinophilia is pronounced, we would naturally investigate the condition of the muscles, perhaps by excision of a piece of the muscle to determine as to the existence of this disease; or it would put us upon the track of the possible presence somewhere in the body, as in the intestinal tract, of animal parasites, as for instance the uncinaria, or even such parasites as tape-worms. In two cases in the County Hospital within the last year or two, the detection of eosinophilia has attracted attention to the intestinal tract and in one case the disease was found to be due to uncinaria and in the other to the presence of strongyloids in the intestine.

I may refer here also to the value of the examination of the blood in lead poisoning. As is known, Grawitz has dwelt particularly upon the granular degeneration in the red blood corpuscles in some severe anemias but particularly in cases of lead poisoning and the detection of these granules often gives material aid in diagnosis.

Of the value of ordinary leucocytosis, that is the increase in the polymorphonuclear leucocytes, I need scarcely speak because this is so well known. In a certain group of infections it is known that the leucocytes are not as a rule increased, while in others an increase is the rule. Thus in typhoid, malaria and tuberculosis an increase in the leucocytes is not met with, while in other diseases, particularly diseases like pneumonia, or infections with ordinary pus organisms, leucocytosis is the rule. How often we are confronted with the question as to whether a given case is typhoid or pneumonia, malaria or ulcerative endocarditis, etc., and here the balance often turns in favor of the one diagnosis or the other because of definite and positive findings as to the number of leucocytes in the blood. One must, however, not depend too absolutely upon leucocytosis in this group of cases because there are exceptions to the rule. For instance in perforation of the intestine, as in typhoid or an appendicitis, the rule is that the leucocytes increase; but in some cases, even the most virulent, perhaps I should say in the most virulent,

there may be no tendency on the part of the body to react and leucocytosis is absent.

We must then look at the blood as one organ or tissue that is to be examined, but by no means to the exclusion of other organs. In other words, we should examine the blood in the same way we examine the heart or lungs or temperature, and we shall often be rewarded by finding the very point that is lacking in order to enable us to reach a definite conclusion.

There are certain other color reactions in the blood that may be mentioned, though they are of comparatively minor importance, such for instance as iodophilia, Bremer's color reaction in diabetic blood, etc.

While what I have referred to includes what is commonly meant by the examination of the blood, we must not forget that the blood permits of examination in many other respects, some of which are of great importance. Thus we know the examination of the blood for bacteria is oftentimes of great help, and as has been lately shown, it often enables us to make an extremely early and positive diagnosis in cases of typhoid or pneumonia. The serum reaction or the Widal test must also be looked upon as showing the value of the examination of the blood, and while hemolytic examinations are not yet of much practical importance in medicine, still in certain diseases as for instance uremia, changes in the hemolytic properties of the blood have been noticed and it is possible that in the future they may be of great help in diagnosis, and in giving us a clew to proper therapy. Then a study of cryoscopy and of electrolytic conductivity, while not as yet of very general application is in a limited number of cases of some value. Of theoretic interest and in the hands of chemical experts of some practical interest also, is the examination of the blood chemically, the determination of the amount of nitrogen, sugar, fat, etc., in the blood.

If one looks at the subject from a broad point of view, one will, I believe, conclude that while some of these blood examinations, must of necessity be confined to experts and laboratories, there are many of them that do not require expensive instruments and unusual skill in technique, nor an extraordinary amount of knowledge for their correct interpretation and that these are of great value to the general practitioner. In fact no one should feel that he is practicing medicine as he should, who does not make the examination of the blood in the same routine way that he makes an examination of the urine or of the sputum.

I am particularly pleased that the subject of diseases of the blood has been taken up for the coming winter and I am sure the society will find the evenings spent on this topic not only extremely interesting but very profitable.

IMMEDIATE ABDOMINAL SECTION.*

BY DENSLOW LEWIS, M. D., CHICAGO.

I concur in the opinion, rather freely expressed in certain quarters, that the multiplicity of hospitals in our smaller cities and the superficial familiarity with surgical procedures acquired by the general practitioner who may spend his vacation at one of our post-graduate schools not infrequently result in the performance of an abdominal section by a man who is imperfectly qualified. I deprecate reckless operating by the inexperienced. So many skilled operators are now available in every section of the country that the practitioner is false to the trust reposed in him by his patient if most major operations of election are not performed by the duly qualified alone.

Conceding all this it must be acknowledged that much of the talk that one hears about "proper surroundings," "a well appointed hospital," "competent assistants," as well as many of the methods in use by some teachers in post-graduate schools foster the idea that there is an attempt at self-advertisement rather than an honest and earnest effort to teach the practitioner-student to operate for himself.

The essentials of asepsis are simple and easily applied everywhere. In an emergency the abdominal wall can be scrubbed with hot soap suds for a few minutes and wiped dry

*Read at the 54th Annual Meeting, May 17, 1904.

with a sterile towel. Then there is another washing with alcohol by means of a large piece of gauze, and still another with a bichloride solution. The disinfection of the operator's hands and forearms can be effected in the same manner, the procedure constituting a method in use by some of the most experienced operators of the world whose results are all that could be asked. The technic of abdominal section is also simple and if properly carried out under aseptic conditions is practically devoid of danger. The incision is preferably in the linea alba but wherever made bleeding vessels should be caught with forceps and often ligated with fine catgut so that all hemorrhage is controlled as the incision is extended. The bleeding vessel in each instance should be seized alone with as little of the adjacent tissue as possible. I have opened and closed the abdomen at least five hundred times without the use of hemostatic measures of any kind except forcible compression by gauze sponges and through and through sutures. I do not now favor this procedure. I believe it to be the part of wisdom to save every drop of blood for no one can tell how much may be lost accidentally toward the close of the operation nor can it be denied that every minute blood clot in the abdominal wound is an additional factor of importance as a potential nidus of infection. I also believe it to be advisable to secure accurate coaptation of the several structures of the abdominal wall so that a true *restitutio ad integrum* may really occur. This is only possible by actually bringing together by suture the different tissues so that peritoneum may be apposed to peritoneum, aponeurosis may be reunited to aponeurosis, the continuity of the musculature may be restored, the superficial fascia may be brought together and finally the cut edges of the skin may be accurately apposed without undue tension. For this purpose I favor the use of sterile catgut which is now obtainable and the separate approximation, preferably by individual suture, of the different tissues which constitute the abdominal wall. I confess I have not always conformed to this theory. Some fifteen years ago I removed a large fibroid in the Presbyterian Hospital of Chicago and at the autopsy I found pus along the continuous suture which united the peritoneal incision. The very means adopted as a precaution to secure additional safety was a factor in the fatal result. I believe, however, that today reliable catgut is obtainable and I prefer its use in all abdominal work. When the operator prepares his own catgut I recommend immersion in a 1 to 1,000 watery solution of bichloride of mercury for six to eight hours and subsequent immersion for twenty-four hours in a similar 1 to 2,000 solution. The catgut should then be placed in absolute alcohol to which a little glycerine has been added and in this solution it should remain at least a month before being used. As catgut is manufactured today it is certainly more convenient to keep on hand the sterilized gut hermetically sealed in its tube which can be broken at the time of operation.

I now invite your attention to the consideration of those conditions where, it would seem, the best interests of the patient are conserved by an immediate abdominal section even by those of limited experience who make no pretensions to a knowledge of surgical procedures. The time has come when no practitioner can with justice remain absolutely in ignorance. Every medical man and woman should know how to use a Murphy button and how to sew up an intestine. The supply of dogs and cats in every community is adequate to any demand and a needle holder and a few intestinal needles are easily obtainable. No one can tell when a human life may depend on the practitioner's ability to do a little scientific sewing. It is simple to reunite the muscular coat and to close the peritoneum by a Lembert suture but the value to the practitioner of one preliminary experiment on the dog is well-nigh incalculable. The Murphy button is easily adjusted, but it can be done wonderfully better if there has been one trial on an animal.

The proposition may be safely advanced today that in every case of gunshot, knife or other traumatism of the abdominal wall exact knowledge of the actual condition is imperative. The real extent of the injury

inflicted can never be accurately determined without proper examination. There is no longer fear that in the event of a prosecution the claim will be made that death is due to the operation rather than the injury. There is no longer need of the hydrogen gas test to demonstrate intestinal integrity. Unless the injury is superficial, the wound of entrance should at once be enlarged sufficiently to ascertain if the abdominal cavity has been entered. Where there is no penetration it may suffice to cleanse the flesh wound and allow it to heal by granulation. When penetration has taken place, the abdominal contents must be examined systematically to determine the existence and extent of every traumatism.

In such an examination it is usually advisable to make a median incision long enough to permit complete exploration of all abdominal or pelvic viscera that may be injured[1]. Bleeding from the vessels of mesentery or omentum can be controlled by ligature and intestinal perforations can be closed. For this purpose the muscular coats can conveniently be brought together by interrupted sutures while the peritoneal surfaces are reunited by a continuous Lembert or other suture which will approximate a relatively large amount of peritoneum. This is the essential factor in intestinal work. The peritoneal surfaces become agglutinated within a few hours and preserve the continuity of the intestine. If traumatism of the omentum is excessive the injured part may often be cut away with advantage. Here, however, the cut edges must be covered with peritoneum for it is, in my judgement, of first importance in all abdominal work that no raw surfaces be left to form adhesions which may predispose to ileus. It is most desirable in every case that, when all is done, nothing but peritoneum shall be apposed to peritoneum within the peritoneal cavity. All intestinal perforations must be found and closed and if any portion of the intestinal tract is the seat of multiple perforation the bowel must be resected. For that purpose the Murphy button is most admirably adapted both by reason of the ease of its application as well as by the well-known good results that have followed its use.

It must be admitted, as Harris has recently explained[2], that unless the abdominal wound is large enough to permit a view of a visceral perforation or other injury, or to take cognizance of the escape of bile or intestinal contents, the only two symptoms which show a definite injury are hematuria, which indicates a traumatism of the urinary tract, and hematemsis, which is evidence of a wounding of the stomach. I remember one case of gunshot wound seen in the practice of the late Dr. Hoadley the fourth of July some thirteen years ago when at the operation, which was performed too late, there were found fourteen perforations and the abdominal cavity was full of blood. And yet at the time of operation, which was some fifteen hours after the receipt of the injury, the pulse was full, strong and regular. It is a mistake to think that no internal hemorrhage is taking place unless there is shock, rapid pulse, cold clammy skin and other characteristic symptoms. As soon as penetration is recognized there should be an immediate abdominal section without regard to symptoms or the patient's condition.

Only very general directions will be attempted in this connection regarding the treatment of perforating wounds of the abdominal and pelvic viscera. As a rule all wounds should be closed by suture whenever possible and the peritoneum should be sewed over all by a Lembert or other sero-serous suture. In this manner the effort will be made in the case of the hollow viscera. When the liver, spleen or pancreas is injured it may be possible to catch and ligate the bleeding vessels or to control the hemorrhage by ligatures, which include a variable portion of the tissue of the organ. In other cases we resort to gauze packing.

Drainage should be the rule—almost the invariable rule. The hollow viscera, as Tiffany has pointed out[3], contain more or less gas, and any quantity of infecting material. Where there is perforation there is danger of contamination, but there is also danger to the peritoneum by too thorough sponging

or douching. The part of wisdom in case of the escape of much fecal matter or stomach contents consists in as complete a removal as possible of all visceral contents, with the minimum amount of irritation to the peritoneal serous surfaces. If the toilet is incomplete, if the perforations are multiple or the traumatism extensive—indeed it is safe to say in nearly every case of injury to the abdominal or pelvic viscera—statistics show that the use of a few cigarette or Mikulicz drains for perhaps forty-eight hours is preferable to immediate closure of the abdominal wound. The distance from the perforation or other injury to the surface should be as short as possible. Additional openings should be made, if necessary, through the abdominal wall in a convenient location to avoid a long or tortuous channel.

In the consideration of abdominal injuries where there is no penetration—injuries due to falls, blows, kicks or to lifting, jumping, straining, or other forms of violence—direct or indirect—it is to be remarked that the treatment should be determined not alone by the conditions of the injury as they are apparent—but also, and perhaps especially, by the recognition of possible sequelae or complications of a serious character which statistical study shows are often to be expected. It is impossible to generalize here, but it must be acknowledged that often the extent of the injury cannot be determined without an abdominal section. I venture the assertion that traumatism sufficient to fracture pelvic bones or to cause extreme shock, acute anaemia, rapid pulse or other untoward symptoms is likely to have produced some serious internal injury which must be sought for[4]. If none is found, it cannot be said that an abdominal section, as performed today, will have added materially to the risk.

In reference to obstetric practice, I beg to state that it was my privilege some two years ago to present a paper by invitation to the Medical Society of the State of New York in which I considered the traumatisms of pregnancy[5]. In the collection of cases during thirteen years, for the preparation of that paper, it was most interesting to observe how frequently, even after an injury which, at the time of infliction, appeared trivial, there resulted later, severe hemorrhage, extensive suppuration or a fatal outcome. I beg to refer to my views as expressed on that occasion for the consideration of rupture of the uterus, and other accidents of pregnancy which require immediate operative attention. I must, however, in this connection insist on the performance of Cesarean section in many instances where the woman is otherwise left to die.

The technic is simple—especially Olshausen's—and, as I had the honor to explain at the November meeting of the Bureau County Medical Society last fall[6], there is, in my judgement, no longer an excuse for a persistence in futile attempts at delivery in cases where the birth of a living and viable child is improbable, or where there is danger to the mother. Cesarean section must be regarded by every practitioner as a legitimate operation of emergency and must be undertaken as readily as any other emergency operation. During the puerperium there may also occur complications requiring abdominal section. My views on this subject are expressed in the address on surgery which I had the honor of delivering at the Cairo meeting of this society[7], and my recommendations in case of criminal abortion have been often repeated[8].

The rupture of an ectopic gestation means hemorrhage and I think I can say that today all agree that rational treatment consists in its control as Bernutz and Goupil pointed out many years ago[9]. I do not mean that every case demands immediate operation but I insist that every case shall be recognized and that undue loss of blood must be prevented even if abdominal section is performed to permit ligation of the bleeding vessels. I appreciate the necessity of alertness to the possibility of this accident by the recent death of the cook in my own family. The woman, some forty years of age, had been in our employ for years and was a model servant in every way. While I was at luncheon one day she fell suddenly on the kitchen floor. When I saw her, a few minutes afterwards,

she had seated herself in a chair and complained of slight abdominal pain. She drank a little water and unassisted walked up two flights of stairs to her room. I saw her again within ten minutes. She was lying dressed upon her bed and said she felt better. Her pulse was full, strong and regular and pressure on the abdomen through her clothes elicited no tenderness. I was told it was not the time of her menstruation. She said she thought she had overworked so I advised her to stay in bed till I could see her again when I came home to dinner. She complained of no pain now so I left her. Two hours afterwards when I was holding my usual clinic at the County Hospital word was brought to me that she was dead. The autopsy, conducted the next day by the Coroner's physician in the presence of Dr. W. A. Evans and others, showed much blood in the abdominal cavity and a ruptured tubal pregnancy of some six weeks. A single ligature would have saved this woman's life. Had the possibility of pregnancy been taken into account, the true condition would have undoubtedly been recognized and an immediate abdominal section would have prevented the fatal result.

Aside from the accidents of pregnancy and the injuries to which all are liable there are many diseases and complications and sequelae of diseased conditions which demand surgical intervention or the patient dies. I have recently seen a case of this character which was particularly sad. The patient was a retired doctor and the father of a doctor. When I saw him the third day of his illness my diagnosis was appendicitis and my advice was an immediate operation which was refused. I noticed the distension of the abdomen and above all its rigidity and after some parley I told the patient frankly that in my opinion he had not thirty-six hours to live unless the operation was performed. His son begged him to submit but the patient asserted that in his younger days he had treated successfully many cases of this character and he preferred to die rather than undergo an operation. Thirty-four hours afterwards he died and at the autopsy, conducted the next day by Dr. W. A. Evans a gangrenous appendix was found which might easily have been removed.

Now I shall not at this time go into an extended discussion of the treatment of appendicitis. I do not believe that every patient who has pain in the right iliac region needs the knife. I know how much benefit is to be derived from high colonic flushing, thorough evacuation, lavage and Ochsner's starvation method. At the same time it must be admitted that gangrene is often present when the symptoms are not severe, and that foul pus may accumulate about the intestines when fever subsides and the general condition is apparently good. I see but few cases that I do not operate and while I admit that I have not always been correct in the diagnosis, I can also say that I have never yet operated without finding some pathologic condition that warranted surgical intervention. I will also confess that on several occasions I have found appendicitis that I did not suspect." In attempting to give general advice on this subject perhaps it is well to emphasize the importance of marked rigidity and any approach to extreme shock. These symptoms in connection with the usual history suggest gangrene, and if they persist unduly and the general condition of the patient does not improve would in most cases indicate operative interference. In cases where an abscess is recognized there can be no question about the advisability of an operation. Here, however, it is often the part of wisdom to open and provide drainage and to do nothing more at the time. To be sure a hernia may result but that is of small consequence in comparison with the danger of infecting the general peritoneal cavity by injudicious manipulation.

Abscess elsewhere within the pelvis or abdomen may necessitate operative measures or pus may be discovered where some other condition—perhaps obstruction of the bowels—induces us to operate. For our comfort it is well to remember that in an old pyosalpinx the pus is often no longer dangerous and rupture is not a serious mishap. Abscesses within the pelvis, when discovered by ab-

dominal section, especially if adhesions are firm and numerous, may often be drained advantageously from the vagina, and sometimes counter-drainage is of value[11]. In many instances the safest procedure is to stitch the wall of the abscess cavity to the edges of the abdominal wound and thus provide drainage. Abscesses that form between kinks of intestine in the course of peritonitis will probably be best treated by a Mikulicz drain.

At times irrigation is advisable—even continuous irrigation—perhaps in the Fowler position, which consists in the elevation of the head of the bed twelve to fifteen inches from the horizontal[12]. It is impossible to generalize, still I confess to an increasing partiality to provide adequate drainage where there is pus, toxines, or debris to be drained away, and I believe in such cases we will all make use of irrigation more often and more systematically than we have done in the past. I cannot believe with Olshausen[13] that drainage is nearly always injudicious or inadvisable. A hot salt solution can, in my judgement, advantageously replace septic matter in contact with peritoneal surfaces and its value to control inaccessible hemorrhage as well as to combat the effects of a dangerous loss of blood can be made available by continuous irrigation in addition, when necessary, to its administration by the rectum or by the intravenous or subcutaneous route[14]. When severe diffuse septic peritonitis exists, death is almost certain. I believe in the future it will more and more seem advisable to make a sufficient number of openings in the abdominal wall, so that thorough and continuous irrigation may be instituted. Indeed, even in cases when the abdomen is closed, a pint or more of hot saline solution left in the abdominal cavity has been often attended in my practice with the happiest results.

Obstruction of the bowels is, I am convinced, too often a cause of death. We have much to learn in connection with this complication of many conditions and it is often possible, I am sure, for a timely operation to prove life-saving. I was asked a few months ago to operate on a case of Dr. C. P. Stringfield's. I arranged to do so but five minutes before I entered the hospital the patient died. At the autopsy which I conducted the same evening in the presence of Drs. Stringfield and Watson the small intestine was found kinked and adherent to a right pyosalpinx. There had been apparently mild peritonitis—non-puerperal—and the first untoward symptom was stercoraceous vomiting which persisted twenty-four hours before the patient died.

How shall we recognize obstruction of the bowels, or rather what symptoms indicate the advisability or necessity of an immediate abdominal section? It may be acknowledged at once that we should operate very much more frequently than we do. The operation is more likely to be of benefit the earlier it is performed. If we wait for stercoraceous vomiting or for evidences of peritonitis we may have waited too long. Be the cause of the obstruction fecal impaction, volvulus, intussuseption, constriction of the bowel by bands or adhesions, the strangulation of an internal hernia, occlusion of the caliber of the gut by tumors within or without the intestine, or the slipping of a knuckle of intestine through a slit in the omentum or mesentery, the ultimate result is the same. Expectancy is a poor make-shift for rational treatment, and the danger of delay is infinitely greater than the danger of an aseptic abdominal section which, in many instances, will alone permit the establishment of a positive diagnosis, at the same time that it allows the only proper treatment. In determining the time to operate, I suggest the advisability of operating in every case unless there is good reason why we should not. And then I would also suggest the advisability of operating when in doubt.

Gastric and duodenal ulcer are more frequent than commonly supposed. Fenwick found in 678 autopsies of gastric ulcer that perforation had occurred in 153 cases or 23 per cent[15]. Premonitory symptoms are usually present—the ordinary symptoms of indigestion more or less pronounced—but in a good proportion of the recorded cases all

symptoms are lacking and the patient may suddenly scream, fall to the floor, soon become unconscious and die in a few hours. If the perforation be near the pylorus or in the duodenum the stomach contents may flow into the right kidney pouch and finally into the right iliac fossa, which acounts for the fact, as MacLaren has recently explained[17], that many of these cases are diagnosed as appendicitis. Moyihan mentions fifty-one perforating duodenal ulcers; in many of these cases a mistaken diagnosis of appendicitis had been made. Dangerous hemorrhage from the stomach may also occur without perforation. There may be vomiting of large quantities of blood, acute anemia, quick and progressively weak pulse, sighing respiration and great and increasing pallor. When these symptoms occur there should be no delay. The certainty of diagnosis in most cases is impossible even by the most experienced, and I heartily applaud the sentiment of C. B. Keetley who asserts[19] that any physician who in the face of these symptoms wastes valuable time in the attempt to make an accurate diagnosis is almost criminally responsible for the death which is sure to follow.

The abdomen should be opened at once and the source of the bleeding located, even if evisceration is necessary. The incision in the stomach may be made parallel with the greater curvature, about four inches in length, through the anterior wall but if the ulcer is located on the posterior wall it may be reached through an opening in the mesocolon after lifting up the omentum and transverse colon. The ulcerating surface should be excised and the incision closed with two or three rows of sutures. In this connection no detailed statement can be made which will refer to the management of complications that may be encountered. Much will have been done if the dangerous hemorrhage is controlled for, at all events, immediate death is averted. The subsequent treatment will vary but in many instances the need of drainage will be apparent.

Other conditions require consideration in this connection. The liver, pancreas or urinary bladder may be ruptured; the spleen, common bile duct or kidney may be torn, ovarian cysts may become twisted, gall-stones or an enterolith may cause obstruction or rupture of the intestine; suppuration of the gall-bladder may occur during typhoid fever or following labor. I maintain that the clinical history of many of these cases demonstrates conclusively the value of an early operation. I submit that a reference to medical literature will show to what an extent a mistaken or imperfect diagnosis has contributed to a fatal result in cases that could have been saved by a timely abdominal section.

Polakoff[20] relates a case of rupture of the liver in a man, aged 22, who was seized with an epileptic fit during which he fell out of bed. The convulsions ceased and he fell asleep. On awakening he complained of intense pain about the right side which was ascribed to the pulmonary inflammation (patient had croupous pneumonia), and accordingly on the next morning he was dry-cupped. A few hours later he died with symptoms of acute anemia. At the post-mortem the abdominal cavity was found to contain about five pints of serum, while the right side was occupied by large blood clots. The right lobe of the liver was torn across, the rent, which measured 6 cm. long by 2 deep, running parallel to and about 5 cm. from the right edge, and involving the peritoneal coat.

Witthaur[21] reports a case of perforated gastric ulcer in a man, aged 47, who was subject to epigastric pain for several years. He continued his occupation till six days before coming under observation. He then complained of pain in epigastrium; slight dullness at bases of lungs, with feeble breath sounds; abdomen distended; no tenderness. Diagnosis: Cancer of stomach. Three days later dyspnea with rise of temperature; increase in dullness at right base. These signs increased and death ensued three days later. Necropsy showed perforated gastric ulcer, with subdiaphragmatic abscess and right pleural effusion. The same author reports a second case in a woman, aged 25, who also suffered from epigastric pain for several years. Finally, she experienced sudden abdominal pain while lifting a heavy weight.

Three days later slight rise in temperature; pain increased. Exploration with needle in eleven places gave no result. Fourteen days later stinking pus found in left pleura—too late to operate. Patient died in a few hours. Necropsy showed perforated gastric ulcer with subdiaphragmatic abscess.

N. T. Mentin[22], of Warsaw, reports an intestinal concretion discovered post-mortem in the cecum of a woman who had been suffering from chronic intestinal catarrh, for which she had been treated by the internal administration of subnitrate of bismuth. The concretion was 1 cm. long and chemical analysis showed it to be composed of 85% of subnitrate of bismuth.

Bazancon[23] reports a fatal case of hepatic abscess which during life had been diagnosed as cancer. Several ulcerations were found in the cecum, to which fact probably the hepatic abscess was attributable.

Regaud[24] reports a liver abscess, the diagnosis of which remained doubtful during life, even exploratory puncture giving negative result. Post-mortem, it was found that the whole right lobe was transformed into a purulent cavity containing about 1,200 grams of very thick pus.

J. M. Byron[25] reports a liver abscess in which the diagnosis of empyema was made. An opening was made on the right side at the usual point and some pus withdrawn. The man died and at the post-mortem nothing was found in the pleural cavities, but in the posterior and upper part of the right lobe of the liver there was a very large abscess cavity, which communicated with the operation wound.

J. C. Pegram[26] reports two cases of perforating duodenal ulcer with subphrenic abscess. Case one was diagnosticated intestinal strangulation. Operation disclosed perforated duodenal ulcer admitting the end of the forefinger, and lying on the anterior wall near the pylorus. There was a subphrenic abscess holding at least two quarts of fluid. No attempt was made to close the ulcer, but instead it was walled off with gauze. The man died thirty-six hours later of general peritonitis. The other case, fatal without operation, presented the symptoms of perforative peritonitis. An opening about 1 cm. in diameter occupied the upper anterior part of the duodenum, almost touching the pyloric orifice. Between the liver and diaphragm was a thick purulent collection.

Mester[27] reports a case of aneurysm of the hepatic artery occurring in a man who had been kicked in the abdomen by a horse. This had been followed by pain in the hypochondrium, intermittent jaundice, vomiting, and the passage of fresh or altered blood by the rectum. The patient died, and at the autopsy a false aneurysm of the right branch of the hepatic artery was found in the liver. It communicated with one of the hepatic ducts. He has collected nineteen cases from literature, which showed that the diagnosis is never made during life, the condition being mistaken for ulcer of the duodenum or for gall stones.

Havas[28] reports a case illustrating the fact that a normal bladder may rupture under the stress of acute complete retention of urine. A previously healthy laborer, aged 55, had two rigors on Feb. 13th, since which date he passed neither urine, feces, nor flatus. On the 15th and 16th the patient himself applied hot fomentations to the abdomen; on the 16th three surgeons attempted unsuccessfully to pass the catheter. On the 17th he was admitted to the hospital, with symptoms of peritonitis. There was a prominence in the region of the bladder, but tympanitic resonance over it, except for three fingerbreaths above the symphysis. A catheter was passed without difficulty, but no urine obtained. Post-mortem, urine was found in the peritoneal cavity. The renal pelves and the ureters were normal. On the posterior vesical wall there was a vertical laceration, over an inch in length, extending through the peritoneal coat. On the anterior wall of the prostate there was a gutter-like tear, covered with coagulum, which was directly continuous with a perforation of the membranous urethra, and was evidently a false passage made in the attempts at catheterism. The false passage was not connected with the rupture, since symptoms of peritonitis preceded the catheterism. The hyper-

trophied prostate appeared to be the cause of the retention.

Högarstedt[29] writes of those rare cases in which symptoms of the wound of the bladder do not develop for several days after the injury. In his case the patient, three days after a fall, suddenly experienced, in endeavoring to urinate, agonizing cutting pain in the region of the bladder, and was unable to micturate. The catheter withdrew a pint of urine containing many red blood corpuscles. After this the patient was absolutely unable to pass urine spontaneously, and seven days from the development of the first bladder symptom the patient died of peritonitis. This shows the importance of examining the urine for blood immediately following traumatism.

Hulke[30] reports difficulty of diagnosis of ruptured bladder in a man, aged 33, who was butted sharply in the abdomen, and immediately felt great pain. He had passed urine two hours previously. Resonant abdomen, signs of shock, but micturition impossible. Catheter withdrew urine slightly tinged with blood on several occasions. The shock seemed to have passed off, and no rent was found by the catheter. The next day pain increased; the withdrawn urine was offensive; some vomiting. The following day symptoms of peritonitis appeared; laparotomy was performed. A rent, 2½ inches long, was found in the posterior wall of the bladder. The operation lasted two hours. The patient succumbed eighteen hours after. Autopsy showed peritonitis, but the suture of the bladder was proved to be water-tight.

Sieur[31] shows that the mortality from traumatic rupture of the bladder for a period of fifteen years (1879-1894) had been reduced from 90 to 54 per cent. This decrease was due to early operative interference. The two forms of rupture, the intraperitoneal and the extraperitoneal, have a different death rate. Thus, of 34 intraperitoneal ruptures, 14 recovered and 20 died; of 18 extraperitoneal ruptures, 10 recovered and 8 died. Sieur regards the following symptoms as the most important signs of intraperitoneal rupture of the bladder. A peculiar pain felt at the time of the injury, chilling of the surface of the body, which persists for some time, an urgent desire to urinate, which the patient cannot satisfy, the absence of any vesical swelling above the pubes, the absence of urine in the bladder, or its presence in small quantity.

E. Hurry Fenwick[32] says that all successful cases of intraperitoneal rupture of the bladder have been operated upon within twenty-seven hours of the injury. The diagnosis is established upon the following data: History of a full bladder before and evidence of an empty bladder after receipt of the injury; the possible jerking passage of the eye of the catheter into the peritoneum through the rent, and the sudden withdrawal of bloody fluid. The point of the catheter being felt with undue distinctness through the abdominal wall. Treat the bladder wound with accurate Lembert sutures of fine carbolized Chinese silk.

Battle[33] records a case in a man, aged 40, who walked to the hospital three hours after having fallen fifteen feet. Moderate shock. Fractured tenth left rib. On second day, signs of internal hemorrhage; four pints of saline infused, with much benefit. Laparotomy; 75 ounces of blood clot removed. Spleen torn and its chief vessels were tied. Peritoneum irrigated; five pints of saline infused, with great benefit. Did well for two days; then localized peritonitis, and death on sixth day.

Leith[34] reports cases of rupture of the pancreas. His first group includes those in which a fatal issue followed early upon injury; the symptoms were shock and collapse, and in no case did they point to the pancreas as the main seat of lesion. The absence of external lesions of the abdomen is important, and not a little surprising. Diagnosis is impossible without laparotomy; therefore, treatment must be expectant or founded on the exploratory laparotomy. In case the latter operation has been performed, hemorrhage may be arrested by pressure, and the ruptured ends brought close together by comparatively superficial sutures passing through little more than the peritoneal covering of the gland. The milder cases of pancreatic rupture may recover. Autopsies prove that

this result may occur. After injury received in the epigastric region there may follow after a considerable interval of time a cyst in this region. The large proportion of pancreatic cysts are held to be of traumatic origin, and a table of seventeen such is given. The earliest tumor appeared ten days after injury; the latest eight years.

Battle[35] reports the case of a boy, aged six months, who had been run over by a cab. At first there were no definite signs of visceral injury; by the seventh day he was deeply jaundiced, with symptoms of acute peritonitis. Abdominal section was done on the eighth day, and a large quantity of almost pure bile evacuated, but no injury to the bile apparatus could be detected. He died on the ninth day, and, post-mortem, the liver and gall bladder were found intact, but the common bile duct was found completely torn through.

Archibald Cuff[36] reports intestinal obstruction caused by an enterolith in a woman, aged 59. She had symptoms of obstruction. The abdomen was opened and a hard mass was felt within the bowel, about three feet from the ileo-cecal valve. The bowel was occluded on each side of the obstruction by the fingers of assistants; an incision was made opposite the mesenteric attachment, and a stone removed. The wound in the bowel and the abdominal incision were then closed. The patient died of exhaustion.

Maurice Richardson[37] reports two cases of wound of the kidney. In each of these cases only the liver and kidney were damaged. There was some bleeding into the abdominal cavity from hemorrhage back of the peritoneum. In each case there had been complete perforation of the kidney, and some of its secreting structure had been destroyed. In each case it was necessary to make an extensive operation before determining what was to be done. In one case the renal vein and the pelvis of the kidney were very badly lacerated. In the other case they were uninjured. In the first case nephrectomy was performed, and death ensued. In the second case drainage was introduced and the patient recovered.

Doleris[38] attended a woman who was delivered at the eighth month; temperature 102.2°, and on the second day of the puerperium it rose to 105°. Typhoid fever was suspected, but the curette was used. The uterus, however, proved healthy. Next day serum diagnosis seemed to prove that there was typhoid. A few days later a swelling developed over the region of the liver, and suppuration of the gall-bladder was diagnosed. Abdominal section was performed, and much pus escaped from the gall-bladder. The bacillus of Eberth was detected in the bile which escaped from the wound during the first days which followed the operation.

Wyeth[39] reported the case of recurrent gall-stone obstruction in which the gall-bladder was found collapsed and empty at operation. The patient died unrelieved, and a post-mortem examination revealed a small concretion in the peritoneal cavity, and a stricture of the hepatic duct where the stone had ulcerated its way through.

These cases show how death occurred because abdominal section was not performed in time. I have a list of other cases which show the advantage of a timely operation. I have instances of rupture of the kidney[40], rupture of the liver[41], intestinal obstruction due to gall-stones, [42, 43] and to an enterolith[44], where recovery ensued as the result of immediate operation. I refer especially to the 105 cases of gall-stone obstruction reported by Kirmisson and Rochard[45], as additional evidence of the value of early surgical interference. I have notes of a case of recovery from suppurating cholecystitis occurring during typhoid fever[46], and another case showing recovery from an early operation for acute suppuration of the pancreas[47]. Littlewood reports a successful operation for a traumatic cyst of the pancreas[48], and Nolan describes a recovery from an operation for abscess of the spleen during the puerperium[49]. Mayo Robson tells us that in cases of ruptured gall-bladder laparotomy is called for. "otherwise a fatal termination is almost inevitable,"[50] and Thiersch reports a successful case where over forty pints of bile were removed from the abdominal cavity after the gall-bladder had been ruptured by a blow[51]. I have also a record of cases of rupture of

the urinary bladder[52], rupture of the liver and kidney[53], and Mercadi's two cases of injury to the liver[54]. In all of these cases recovery followed an early operation. I note Hochenegg's case of torsion of the omentum[55], Cortiguera's case of twisted pedicle of a cyst containing twenty pints of fluid[56], Winckel's case where fetal bones from an ectopic gestation were removed from a woman's bladder[57], and the case of Richelot and Pauchat where an ovarian cyst ruptured into the rectum[58]. All these cases and many others that might be referred to show the advantage of an immediate operation.

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Discussion.

Dr. William H. Maley, of Galesburg: Mr. President—Reference was made in Dr. Lewis' paper to a gangrenous appendix in one case, and I wish to ask him if, at the autopsy, there was pus found in the abdominal cavity, or if there was something found that closely simulated it?

Dr. Frank W. Goodell, of Effingham: My friend, Dr. Lewis, has said that this operation (abdominal section) is so simple that it can be performed by all physicians. As I am one of many of what we call country physicians in this hall, I would like to ask the doctor if he will be courteous and good enough to give us a demonstration of the operation this afternoon. I am sure, we would all appreciate such a demonstration. I have no doubt he can get material enough from professional friends in this city to make whatever demonstrations he sees fit.

Dr. Denslow Lewis, Chicago (closing the discussion): The purport of my paper was to call attention to cases where immediate operation would have saved life and the cases reported show instances—and I could easily have cited many more—where death occurred because no operation was performed. For this reason I went into no special detail as to pathologic findings so that I cannot just now give a definite answer to Dr. Maley's question. The operative treatment of appendicitis is so large a subject I must not impose on your good nature by further discussion today. I appreciate the kindly courtesy of Dr. Goodell's suggestion. The society will soon adjourn and I have neither instruments nor dogs with me. Otherwise I would very gladly demonstrate certain intestinal operations. The value, however, of such a demonstration comes chiefly from doing it. No matter how often the abdominal operation is witnessed either in man or dog the practitioner cannot feel a full measure of confidence in himself until he has actually performed the operation. For that reason, as my last word on this subject, let me again urge every medical man and woman of this society to procure a few intestinal needles, a needle holder and a Murphy button and as soon as a dog or a cat can be kidnapped to practice intestinal anastomosis and a little scientific sewing for no one can tell at what moment the practical knowledge thus gained may be instrumental in saving a human life.

PYOKTANIN AND ITS USES AS A SURGICAL AGENT.

BY EMANUEL FRIEND, M. D., CHICAGO.

Assistant Clinical Professor Surgery Extra Mural Rush Medical College, Pathologist Michael Reese Hospital, Attending Surgeon Michael Reese and United Hebrew and Rush Medical Dispensaries.

As it is so frequently the case that the old, whether an operative procedure, or a drug, is discarded for the new, without regard for the relative merits of both, that I am not surprised that the substance, which forms the title of the brief communication, should have become almost obsolete in so far as its employment in surgery is concerned.

Where I had formerly employed the same years ago in cases of stomach and intestinal carcinomata by internal administration I had quite nearly forgotten the same, when being called upon to take up the surgical work of the out department of Rush Medical College, I found my assistant, Dr. Ellis, using the same in a variety of ulcerous lesions with marked, yes, I might also almost be tempted to say, miraculous effect. I advised the continuance of the same, and employed the drug in my clinic at the United Hebrew Charity and Michael Reese Dispensary, as well as in private practice. In these various institutions I had the opportunity to study the effect in hundreds of cases and in the great majority with the most beneficial and rapid results.

Merck's only report on the same is as follows:

Pyoktanin (Puskiller) is the name given by Prof. J. Stilling of the University of Strasburg, Germany, to a group of substances, which he found most efficacious as bactericides. The name, however, has been restricted to the leading member of the group, which has thus become known as Pyoktanin Blue.

Pyoktanin Blue (Penta and Hexa—Methyl-Para—Rosaniline), also known as methyl, Dahlia or Paris Violet, is an oxidation product of Dimethylaniline and is derived from coal tar.

It is a non-poisonous, violet, crystalline powder, nearly odorless, very soluble in

chloroform soluble in 12 parts of 90% alcohol, 50 parts glycerin, 50 parts hot or 75 parts cold water. The solutions being very diffusible in animal fluids.

Properties. Antiseptic, disinfectant and analgesic, non-poisonous and does not form insoluble compounds with organic matter.

Medical Uses. In ulcers, burns, inflamed wounds, malignant neoplasms, and is highly extolled in veterinary practice in foot and mouth disease in cattle. It is also used in opthalmiatric and otic practice.

Methods of Application.

First—It may be powdered directly on the surface of large, purulent wounds and ulcers, until a firm scab has formed, which must then be abandoned to spontaneous desquamation.

Second—Pyoktanin dusting powders, various diluents may be employed, such as talcum, starch, sugar of milk in the strength of 2%.

Third—Ointments, of the strength of from 2 to 10%, may be employed in a base of lanoline, lard, cosmoline or vaseline.

Fourth—Pyoktanin pencils. The pencil is dipped in water, then passed over the ulcerated surface.

Fifth—Solutions varying in strength from 1-1000 to a saturated aqueous solution, may be employed. The latter is the one we have employed mostly in our cases with, as I have stated, remarkable results. The only objection which I have heard regarding its use, from my colleagues, is that of staining the fingers of the operator which, in my experience, is not a valid one inasmuch as when the drug is carefully used by dipping a pledget of cotton, wound upon a probe into the solution, and making applications to the affected part, one need not soil the hands, nor the surroundings of the patient, and in case one does the stains are easily removed by soap and water or alcohol. Van Arsdale has used the drug with apparent success in cases of superficial wounds, excoriations, ulcers, abrasions, burns and all kinds of granulating surfaces. Ulcers did remarkably well under the use of the remedy and never were there any exuberant granulations, dermatitis, or symptoms from the wound. The drug, as he states, hastened the healing of ulcers and exercised an astringent action in curbing granulations.

Burns under the same dressings showed very good results.

Wounds treated by the remedy heal by primary intention.

Adolph Kessler had results so marvelously brilliant that he is inclined to look upon pyokatnin as the ideal antiseptic and pus destroyer.

The drug has acted wonderfully in his hands in suppurative wounds and old indolent ulcers, where marked improvement could be noticed after a few applications.

Stilling & Wortmann tested its action on putrefactive bacteria and found that the drug killed the micro-organisms in a concentrated solution of 1-4000. Jaenicke and Braunschweig have confirmed these observations. Jaenicke especially has tried the drug on pure cultures of several pyogenic micro-organisms.

In bouillon the staphylococcus pyogenes aureus was destroyed by a solution of 1-200,000 parts, the streptococcus by 1-250,000 parts, a dipolococcus resembling that of pneumonia by 1-1,000,000 parts. This action was less pronounced in blood serum, and in this the staphylococcus was killed only by 1-500,000 parts.

The staphylococcus aureus was destroyed in one minute by a solution representing 1 in 1,000, and the streptococcus in five minutes, the authrax bacilli, without spores, in two and one-half minutes, while in a period of fifty hours the solution had no effect on the bacilli of typhoid fever. The same solution killed in five minutes the staphylococcus in a dried condition. When suspended in serum of blood an hour was necessary to destroy it.

F. C. Hotz thinks the best method of application in corneal affections is in substance. He finds the drug an antiseptic in minor wounds.

M. L. Harris, in a discussion of Hotz's paper, said he had brought pyoktanin in contact with almost every tissue in the body,

from the brain to the synovial membrane, with the exception of the eye, and after a thorough trial looked upon it as very useful.

Korn thinks that the result of the treatment of suppurating wounds by pyoktanin is the same as that by iodoform. Three cases of leg-ulcers of long standing were cured by the application of an ointment.

My own results compare with the most favorable of those quoted, as Harris has said I have brought the same in contact with almost every tissue of the body excepting the eye, and have had an almost universal good effect therefrom.

Burns of the second and third degree quite extensive in size, as well as large varicose and specific ulcerations as well as osteo myelitic bone fistulae were treated with a saturated solution of the drug with excellent results. A solution of 1-1000 was used in irrigating wounds, such as those following infective lymph-adenitis, and a few weeks ago I employed the same in a case of infected Meningocele, involving the lumbar coverings of the cord, with good results. The chief advantages to its use are:

1. Firstly, the rapidity of action.
2. Its drying tendencies of the weeping wound surface and consequent cutting short of the suppurative process.
3. Prevention of adherence of the gauze covering the ulcerated area, and in consequence, the minimum of disturbance to the newly formed epithelical elements.
4. Curbing of excessive granulation tissue.
5. Non-irritating, non-poisonous, and anodyne effects.
6. Ease of application.
7. Cheapness.

INFANT MORTALITY.*

BY WILLIAM J. BUTLER, M. D., CHICAGO.

According to vital statistics, there seems to have been a decidedly yearly decrease in infant and early childhood mortality from all causes in past decade in Chicago. Attention has been particularly directed to the marked diminution in the death rate from gastro-intestinal and kindred diseases, which have always caused such great sacrifice among sucklings and young children in large cities during the hot months.

Special interest in pediatrics led me to investigate the death rate from these causes for two reasons; namely: (1) to determine the exact yearly decrease; (2) to determine, if possible, the probable causes for this decrease. While it would be desirable in reviewing this subject to secure data for at least the past decade, I found it impracticable, because of the incompleteness of early records to go back beyond 1897, since which time the Health Department kindly furnished me with many data.

I would preface the table presented below by explaining that there has been included under gastro-intestinal and kindred diseases the following: Gastritis, gastro-enteritis, enteritis, diarrhoea, convulsions and marasmus, under which several headings death certificates are made out.

Year.	Population under one year.	Population under five years.	Deaths under one year.	Deaths under five years.	Per cent. of Deaths to population under one year.	Per cent. of Deaths to population under five years.	Per cent. of Milk Samples below grade.	Average Temperature for July.	Average Temperature for August.
1897	35,247	135,126	3,079	3,754	8.4 %	2.68%	11.71%	74°	69
1898	36,622	140,411	2,771	3,348	7.56%	2.38%	6.66%	73°	71
1899	37,997	145,696	2,910	3,650	7.67%	2.5 %	.....	72°	71
1900	39,375	150,980	2,655	3,225	6.7 %	2.1 %	7.5 %	72°	70
1901	40,753	156,264	2,595	3,180	6.1 %	2 %	7.6 %	77°	72
1902	42,180	161,733	2,540	3,134	6 %	1.93%	6.4 %	72°	68
1903	42,873	166,231	2,581	3,144	6 %	.89%	4 %	72°	68

A perusal of above figures shows a marked decrease in past seven years in infant mortality; that while the decline previous to 1900 was quite variable, that since 1900 seems constant and steadily maintained. It is needless to say that such a reduction will find its explanation not in mere coincidence or statistical error, but rather the result of one or several well-directed intermittently and continuous acting forces, the results of which are expressed in above figures. I use the word

*Read at the 54th Annual Meeting, May 17, 1904.

intermittently, because it will be noted that while there was a marked decrease in 1898 over 1897, the death rate again rose in 1899.

Among the many causes ascribed for this reduction, to milk inspection probably has been attributed the most potent influence. In view of this, I have introduced into the above table the per cent of milk samples found below grade yearly.

It would seem at first sight that the death rate ran parallel to the efficiency of milk inspection, but on closer observation this is not so apparent. While 1898, with a milk inspection of 5% better than in 1897, showed a remarkable decrease in mortality, you will notice that 1901, with a milk inspection of 1% poorer, showed a greater decrease over 1898 than did 1898 over 1897. You will note further that although the milk inspection of 1901 was not quite as good as in 1900, there was still a notable decrease in infant mortality, especially under one year. A still equally forcible comparison is observed between 1902 and 1903, when with an improved milk inspection of 2.4% over 1902, there was no diminution in mortality under one year, and practically none under five years.

It would seem from above figures that the efficiency of our milk inspection does not coincide so intimately as we were wont to believe with the mortality of intestinal diseases in children, and that we must look further if we would explain this reduction. Before venturing further, it would be well for us to understand the extent of our present milk inspection. I am informed that it consists of two departments:

First: The inspection department, whose duties consist of

The occasional inspection of dairy farms.

The inspection of cans on arrival in city at the distributing stations.

The inspection of city depots, usually when licenses are applied for.

The collection of milk samples from milk wagons, and occasionally from distributing stations.

Second: A laboratory department, whose duties are the chemical analysis of all milk samples received.

This examination consists in determining the presence of preservatives or coloring matter; the specific gravity, the per cent of butter fat by Babcock's method, and the total solids and proteids, calculated therefrom. I understand the use of preservatives and coloring matter has long since been abandoned.

Bacteriological examinations are occasionally made.

The great advantage of this inspection is evident in so far as it can be carried out by the present staff in a city of nearly two million people.

The milk analysis must likewise be of great value, especially in so far as it assures the avoidance of milk being diluted by contaminated water, and this would seem to encompass its present scope in regard to milk supply.

And it is this contamination from dilution, also the unclean handling and keeping of milk, that have been powerful factors in influencing child mortality in the past, not only before reaching consumer, but thereafter, in so far as its consumption would be associated with impure water, unclean utensils, or exposure in insanitary atmospheres and unfavorable temperatures.

Although our knowledge of the exact etiology of gastro-entero-colitic diseases is still incomplete, sufficient observations have been made to lead us to believe that some of them are due to special organisms, in all probability taken in with the food, and possibly some are already resident in the intestinal tract. At least it is far more probable that such causes are responsible for acute inflammatory infections of the gastro-intestinal tract than would be low fat per cent or total solids in milk.

In other words, we must concede without discussion that while milk at all times should be pure, clean and wholesome, we cannot attribute to low per cent of fat or total solids in milk the acute gastro-intestinal diseases in infancy. Nor can we say that a 3½% or 4% of butter fat and 12% total solids will obviate their occurrence. It is probable, however, that milk contaminated with infective bacteria, no matter what the per cent of solids may be, is capable of producing acute

infections. The great value of milk inspection would seem to rest in assuring freedom from contamination by dilution and in the handling of milk.

Probably in the water supply we can seek an explanation partly for the variation in mortality rate in years above mentioned. This will probably account somewhat for the lack of harmony between the efficiency of milk inspection and child mortality. This will probably partially explain the marked reduction in 1901 over 1898, notwithstanding the better milk inspection in the latter year, because in 1900 the city sewage from 39th St. on the South to Fullerton Ave. on the North, which would include the thickly settled part of the city, was diverted from the lake into the drainage canal. And we further notice that the reduction since 1900 is being maintained. Again, in 1897, during which year the mortality was considerably higher than in 1898, the records show that the latter year not only had better milk inspection, but that it had better water, that only during the last week in October and first two in November is it recorded as bad, while in 1897 it is recorded as bad for three weeks in January, one in March, one in April, one in June, three in August, two in September, one in October, and only during November is it regarded as usable.

I am not prepared to state the relation between polluted water and acute enteric diseases in children, but it is very noticeable that a decided increase in enteric disease is observed when water is recorded as bad.

From this standpoint, however, milk inspection would seem to have been of incalculable value in so far as it has obviated its contamination by dilution, but apparently of far greater primary importance has been the betterment of the water supply, in that the latter has also obviated, at least to some extent, contamination of milk after reaching consumer.

Resting for the time-being the discussion of the above points, we might take up other factors which have had great bearing on infant mortality. Not the least important among all is the question of temperature. I have, therefore, included in above table the average temperature for the months, namely, July and August, during which the highest death rate from gastro-intestinal diseases occurs. It will be observed the average temperatures for 1902 and 1903 are the lowest for the seven years tabulated, and are the same for both years; that the temperatures for 1901 and 1900 averaged 4½° and 4 higher than for 1902 and 1903 respectively.

In reviewing the death rate with relation to milk inspection and average temperature for various years, it is quite striking that the mortality and average temperature for 1902 and 1903 remained the same, notwithstanding an improved milk inspection of 2.4% in 1903 over 1902. Therefore, in judging the difference in mortality between 1901 and 1902, we would not be justified in assuming that the improvement of 1% in milk inspection had any material bearing, but we would have reason to believe that the higher temperatrue of July and August of 1901 did have a forceful effect in increasing the death rate in the latter year over the former. Indeed, since the establishment of a better water supply, it would seem that infant and early childhood mortality bore a more constant relation to summer temperatures than to efficiency of the milk inspection.

Let it not be inferred that the purpose of this article is to deprecate the incalculable value of milk inspection, nor to question its great influence in past years in favorably influencing child mortality from gastro-intestinal diseases, but it seems an unavoidable deduction that the present extent of milk inspection has quite exhausted itself in affecting the death rate of children under five years.

On the other hand, it would seem that high temperatures had not lost their bearing on infant mortality from diarrhoeal diseases, the death rate of the past few years seeming to run parallel with the temperature. Whether there is any relation between high summer temperatures and enteric diseases in children may be difficult to prove in words, but apparently not in figures. Further evidence of this was seen this summer when, with an unprecedented low mortality, in the one hot week in July the death rate in children under five years increased 110 over the previous week.

We have all seen at some time or other the depressing effects of high summer temperature on adults. It is a clinical fact that similar conditions exert an equal, if not greater, influence upon infants and young children, lowers their vitality, and resistance, and renders their *locus minoris resistentiae*, namely, the gastro-intestinal tract, susceptible to insults and bacterial invasion, which may be already present or accompany the food.

It is not improbable that the healthy gastro-intestinal mucosa possesses a certain degree of resistance against bacterial invasion, and its normal secretions a protection to its contents against fermentation, both thus holding in abeyance bacteria present or taken in with food; that such bacteria are capable at any and all times under favorable conditions of producing their pathogenic action. That such favorable conditions are induced by anything that disturbs the function of digestion, to-wit: from the depression incident to high summer temperatures, the consumption of food not suited to their digestion, or of food swarming with infective bacteria, the existence of some acute infection, as pneumonia, etc.

That under the latter conditions the undigested material and toxic products of fermentation act as irritant to the intestinal mucosa, permitting of its bacterial invasion and the production of inflammatory changes. At any rate, there would seem to be some relation between high temperatures and enteric diseases in infancy. This is probably dependent on two factors:

1. Changes in food, especially its contamination with infective bacteria, the conditions for growth of which would be very favorable during hot weather. And these changes may exist in milk, irrespective of what chemical analysis may show.

2. The depressing effects of high temperatures may give rise to functional disturbances of digestion, under which circumstance the toxic products of fermentation and bacteria probably produce the inflammatory forms of entero-colitis.

Among the various points under consideration, probably none is more deserving of credit than the education of the public by the profession through the various channels of information: The press, the Health Department, visiting nurse associations, dispensaries, hospitals, the family practitioner, more recently the Chicago Hospital Society, and fresh air sanitariums, settlement houses, etc.

The medical profession has taught them the necessity of pure, wholesome milk; its sterilization; boiling of water; cleanliness in preparing of food, and to some extent the methods of preparing it. It has taught them the advantages of fresh air and sunshine.

It would be impossible to estimate the full value of this instruction, but there can be no doubt that it has been one of the most important factors in diminishing infant mortality.

Another factor not to be overlooked is that the importance of pediatrics has impressed itself on the profession, and they know that a study and solution of the problems of infant life forms a special field in itself, and is one of the most important in the entire range of medicine, both from a scientific and sociological standpoint.

In summing up the subject of infant mortality from enteric diseases, and the various causes affecting it, it would appear that there had been a decided reduction in death rate from gastro-intestinal and kindred diseases; that in the past seven years this was most marked in 1900, since which our drinking water has been greatly improved. That prior to 1900 there seems to have been a variation in the yearly death rate, that is that while 1898 showed a substantial decrease over 1897, 1899 showed a marked increase over 1898. That since 1900 there has been an unvarying decrease. That no one factor would seem to explain fully all the figures given. That the condition of the water would seem to bear an especially important relation. That milk inspection has assisted greatly in so far as it has furnished a pure, wholesome milk, undiluted and carefully and promptly handled. That the low summer temperatures of 1902 and 1903 have been very favorable, and would easily explain the decrease over 1901; at the same time, that the similar temperatures of 1902 and 1903, with good water supply, would account for the unvarying mortal-

ity of those years. That the education of the people by the profession has been of incalculable value. That there had been a greater interest excited in pediatrics.

Lastly, but by no means of least importance, the conditions of the poor, among whom infant mortality is by all odds the highest, has improved considerably.

SUCCESSIVE SCIENTIFIC STEPS ESTABLISHING THE MOSQUITO AS THE DEFINITE HOST OF MALARIAL FEVER.*

BY THOMAS W. BATH, M. D., BLOOMINGTON.
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Mr. President and Gentlemen: In the brief limits of this paper one can not do more than a cursory attempt to cover the field. This I realize, and therefore have sought to avoid symptomatology, pathology and treatment, and endeavor to submit for your distinguished consideration only such points as I believe are not usually dwelt on in the books. Furthermore, I desire to state that I claim no originality for this paper. The entire paper is based on the newer literature of the subject, upon my personal correspondence with many scientific men from various parts and on my own feeble observations while serving as surgeon in the United States Army.

The term Malaria, as everyone knows, signifies bad air. From the earliest time, when man began to associate cause with effect, it was noticed that those living in the vicinity of swamps and damp ground were the victims of fever. Later, as observations became more accurate, it was determined that malaria was a disease of certain zones. Not only was miasm, a term which a few decades ago stood the scientific world in lieu of more definite meaning, ascribed as the cause of malaria, but the water of ponds and marshes was considered equally potent as a conveyor of the disease. Hippocrates said that "he who drank warm and fetid stagnant water acquired an enlarged spleen and a hard belly."

The etiology of malaria, never having been correctly determined until the last few years, gave a wide-spread belief among professional and laity, that it was a universal disease. I recall distinctly only a few years ago when practitioners in cities grouped nearly all irregular temperature disturbances under the protean heads of malaria or syphilis and prescribed the initiatory routine treatment of calomel and quinine. Any toxemia or febricula resulting from unknown causes was generally diagnosed as a "touch of malaria." It was impossible to take a journey into the country, or change drinking water or abode, or to live near excavations, when, if an attack of fever ensued, it was promptly termed malaria. In sections of the South where the disease is endemic, there exists beliefs that eating plums in the thickets always produces attacks of fever. And, if we were to follow up local traditions, in the regions where this disease has always held sway, we would hear the belief expressed that malaria loves the ground, that malaria is contracted by night vapors, that you get the malaria by drinking surface waters; and so on indefinitely, showing, apparently, that certain causes were productive of the disease. At the beginning of the Spanish-American war, Colonel O'Reilly, now Surgeon-General in the United States Army, was sent to Jamaica to make observations relative to the health conditions of the British troops quartered there; the United States having in mind the occupation of Cuba, desired whatever practical suggestions which a long experience of colonization had given the English government. Jamaica had long bourne the omnious sobriquet "graveyard of the English." The first troops arrived there in July, 1799, 1008 strong, and were quartered at Kingston. In four years the whole command was dead. The following year 387 men were landed; 155 died within a year and the rest perished (presumably of disease) in an expedition. A few months later 791 men landed. In two years they lost 500 men while stationed in the healthiest locality of the island.

*Read at the 54th Annual Meeting, May 17, 1904.

And so on; the narrative of British occupation records a frightfully appalling mortality. It is true that yellow fever was without doubt present at times, but possessed as we are in this latter day of more accurate etiology and looking over the clinical narrative of that day, it is perfectly safe to say that malaria was to those colonists the terrible King of Death. General O'Reilly found that today the British barracks are built above ground and that the ground area immediately underneath them are covered with cement. This was in obedience to the prevailing opinion that malaria was a "miasm," that undefinable something of the past, and could be contracted by contact with ground vapors.

However, the natives of all hot countries build above ground to escape being flooded by the rainy season as well as to protect them, as they think, from the fever which comes out of the ground.

While in Cuba and the Philippines I had on a great many occasions opportunity to observe that at night in the warmest weather the natives closed their houses up tightly because they said the night air caused fever. Stanley, in his second expedition through Africa, slept above ground on a specially devised frame, because his earlier observations were that malaria seemed to be associated with the ground.

Acting on the theory that malaria was in some way associated with ground vapors, the inhabitants of the Roman Campagna planted it in the Australian eucalyptus. This has also been done by people elsewhere, notably in California. As we now read the record of diminished malaria in those places where it was formerly so prevalent, we know that the eucalyptus, having a great attraction for water, dried up the soil, thereby destroying the breeding places of the mosquito.

Another local tradition in some parts as to the cause of malaria has been mosquitos. Among the shepherds of Southern Europe, certain mosquito infected localities have always been associated with malaria. The peasants smoke their huts at night to stupefy the insects so that they might not only enjoy rest from their bites, but also they think they have less fever if this custom is followed. The shepherds drive the sheep into their huts to allow the mosquitos to gorge themselves on the blood of the animals so that their keepers might enjoy rest and less liability of contracting the disease.

When Koch was in Africa making observations on the rinderpest, he encountered natives who said they had mbu flies in their country and if bitten by the mbu they had the mbu disease. The mbu was subsequently found to be the mosquito and the disease malaria.

Emin Pasha, the German African explorer, concluded in some way mosquitos were responsible for malaria, for he took pains to protect himself during his explorations by sleeping under nets at night.

Passing over the mass of accumulated observations relative to soil, air, water, temperature and localities as factors of malaria, our attention is directed to the first observations of a scientific character in an attempt to find the real cause of the disease. In 1883 Dr. King, of Washington, D. C., in an exhaustive paper in which he reviewed all the popular beliefs, and after much careful observation on his own part, stated as his firm conclusion that the mosquito was the sole cause of malaria. Whether or not King was stimulated by the equally positive opinions of Dr. Mott, of Mobile, who, in 1845, wrote on yellow fever and ascribed that disease as due to mosquitos, or to Dr. Finlay, now Health Commissioner of the Republic of Cuba, who, in 1880, made a series of observations with mosquitos relative to yellow fever, we can not tell. But Dr. King, so far as is known, made no specifications with regard to sex or genera of the insect except to say, as quoted by Nuttal, "that all mosquitos will not produce malaria any more than the bite of every dog hydrophobia." But King certainly did not anticipate the complicated role of the parasite as having a dual existence necessary to its completion.

I have purposely referred to Mott's and Finley's opinions of yellow fever and mosquitos because the popular impression is that

both are diseases of the same zone. This, as we shall see, is not necessarily true. Yellow fever has always been endemic in the West Indies. Cortez, in his invasion of Mexico, found the vicinity of Vera Cruz to affect his men fatally. We now know that yellow fever was there. But in Brazil yellow fever was never known till 1849, according to Manson, when a ship from New Orleans put in at Bahia, and since that time yellow fever has always prevailed. On the other hand, malaria was never known on the island of Mauritius till the early sixties, and since that time the inhabitants have become nearly extinct. The same is true of the Hawaiian Islands. About 1855 dates the first introduction of mosquitos to those islands. They were brought there, quite probably, in the bilge water of the numerous whaling vessels calling constantly at that cost.

In 1880, Laveran, a French Army surgeon, while in Algiers discovered the parasite of malaria. Laveran thought it to be extra-corpuscular, but two years later Richards, by some authorities, and Celli and Marchiafava, according to others, found the parasite to be intra-corpuscular. The parasite being in need of a name in 1885 it was called plasmodium malaria by Marchiafava and Celli, after a seeming resemblance to the plasmodiophora brassicae of Woronin. This term is today, under our greatly extended biologic knowledge of the parasite, properly falling into disuse. Its proper biologic name is haemamoeba, or hematozoa. However, Laveran's discovery was not accepted by the scientific world until the two scientists above named conducted a series of experiments with reference to the hemameba, in which they found:

First—The melanin characteristic of malaria was formed within the parasite.

Second—Resemblance of the hemameba in cell structure and motion to protozoa.

Third—The hemameba multiplied by fission.

The accurate description of clinic symptoms and manifestations with the grouping and life cycles of the three types of tertian, quartan and estivo-autumnal fevers, as we now know them, was also given to us shortly after by Golgi, of the Italian school.

Up to this point, for a time, further scientific knowledge regarding the origin and perpetuation of malaria, seemingly came to an end. Investigators had followed the trial to where it faded out and no new clue presented itself that might serve as an index for further direction. But in 1887 Metchnikoff reasoned that the socalled plasmodium must be a protozoon, and from it being found in the blood corpuscle and renewing itself by sporulation, concluded that it must bear some relation to a subdivision of the protozoa known as coccidium. Alsa Binz, a pharmacist, in 1869, considering that quinine arrested ameboid organisms, concluded that malaria must be an ameboid protozoan. This intuition of Metchnikoff's was to the further development of the malarial hypothesis what the finding of the famous Rosetta stone was to the interpretation of the Egyptian hieroglyphics. Scientists knew that malaria was not contagious, that is conveyable by contact, for Celli had experimented with all traditional means of acquiring the disease. He first made his experiments on birds and animals. These he placed in suitable boxes on the ground of the most intensely malarious districts, taking care, however, to keep them from being bitten by insects. No signs of malaria developed from these experiments. Then they were injected with supposedly malarious soil and caused to drink marshy water. Still no malaria developed. Then the ameba of the soil was taken and cultivated and in turn experimented with, as in the former instances all resulted negatively. Then many of the experiments were performed upon men selected for that purpose. With all these elaborate experiments conducted with air, soil, water and protozoic ameba, both on animals and men, not the slightest trace of malarial infection could be found. Consequently, scientists were at a loss to know Nature's means for the continuation of the disease: for all men know that in the great economy of Nature, she has established throughout all organic life, whether in man or the low-

rotozoon, a distinct process whereby reproduction is accomplished.

It was, therefore, Metchnikoff's declaration that the plasmodium, as it was then called, as a form of animal life, having an affinity for living and reproduction with the red cell, which led to renewed investigations relative to the past life of the protozoon. This became comparatively easy, because in 1882 Pfeiffer, Schaudin, Schneider and Simond had carried on an elaborate study in the biology of protozoa. It was found by these distinguished men that many of these low forms of life had a two phase or dimorphic cycle necessary to their complete existence. Studies on the adela ovata, a protozoon, had shown the astonishing fact that this protozoon could live and multiply in one body through the process of simple fission—similar to the karyokinesis of higher organisms. But that to perpetuate itself, Nature had given it another means whereby reproduction could be accomplished in a finished state, so to speak. This latter way was by certain cells which were bi-sexual in their structure. These cells were termed gametes. The gamete consisted of a male cell called macrogamete and a female cell called microgamete. The male element was capable of emitting flagellae, one of which would penetrate the granular female cell, performing a fecundating function and in that way a truly sexual cycle, as compared with the former asexual or fission reproduction was instituted.

Later it was found that rabbits were especially prone to certain diseases of a protozoic type, and some of these infectious coccidii have been found to play a part, though rare, in the role of human pathology. But in the above named instances it was established beyond doubt that certain of the suborders of protozoa must have two separate and distinct organisms in which to complete their full existence and possibility of continuation. Hence the term dimorphic-cycle. Therefore, with this in mind, investigation received a new stimulus.

Several years prior to Laveran's discovery of the hemameba, Lancaster and Danilewski had made a series of findings of parasites in the blood of frogs, turtles, reptiles, birds and animals. For lack of a better name they were called blood-worm. In the batrachia and reptilia the hemoglobin of the blood was not abstracted, but in the erythrocytes of birds and animals great destructive changes were noticed. In fact all the pathological conditions ensued, similar to malaria in man.

Studies on comparative malaria on animals and birds gave a wider range of interpretation to its causation in man. Dr. Theobald Smith, in about 1890, definitely located the cause of Texas cattle fever as being the parasite pirosoma bigeminum, due to the tick boopholis bovis. Labbe, a French scientist, gave us the generally accepted classification of bird malaria of halteridium and proteozoma.

Celli, however, differs from him and believes in a further classification. The term halteridium was given because the parasite on entering the red cell disposed itself in a haltershaped manner about the nucleus. The halteridium form of malaria is taken to correspond with the estivo-autumnal type of man. This form of malaria is very widespread among crows. Proteosoma, so named because the parasite in entering the erythrocyte displaced the nucleus from the center to the side, hence the name. This type of malaria is also widespread among birds, the common English sparrow being peculiarly susceptible to this form of infection. It corresponds to the tertian and quartan types as found in man.

Finally, in speaking of the last and equally important chain of investigation leading to the proof that malaria is an infection transferred to man's blood through some intermediate agency, we must mention Manson's analogy of filaria to malaria. The filaria nocturna was discovered in the human blood by Demarquay in 1863.

As is well known, filaria is one of the scourges of the tropic world. Manson declares that in the zones of its endemnicity fully one-tenth to one-half of the inhabitants suffer from this parasite. 'It was in 1879 that Manson discovered in the body of the mosquito a cycle of development of the filaria

nocturna; however, not being able to keep the insects alive in captivity, Manson was not enabled to further pursue his researches relative to the manner in which the filaria was transferred from mosquito to man." But, as the discoveries of halteridium and proteosoma in birds had revived the interest in malaria, Major Ross, of the English Army, at Manson's suggestion, in 1895, caused birds to be bitten by several varieties of mosquitos. In the stomachs of some of these mosquitos Ross found that when the mosquito had sucked blood from a bird infected with proteosoma, exflagellation ensued. Later on, in 1897, he determined pigmented parasites in the mosquito's stomach. The complete chain of avian proteosoma infection was carried out in 1898 when Ross took the uninfected grey mosquito, culex pipiens, and caused it to bite infected birds. These mosquitos in turn were induced to bite birds not suffering any infection. The process of cell fecundation, as had been described by MacCallam, was found to occur in the stomach of the mosquito. The parasitic fertilized cell proceeded to undergo characteristic development in the stomach of the mosquito, which, when completed, bursted its capsule and liberated the new born sporozoites into the lacunar circulation of the mosquito. These sporozoites in turn, penetrating the salivary gland of the mosquito, were injected into the blood of the bitten bird, there to go through the asexual process of multiplication by sporulation. The function of the flagellae and crescents for the first time now became known.

Laveran believed that flagellae and crescents represented the mature form of the parasite. The Italian school, on the contrary unanimously believed them to be the dead products of sporulation. But Manson believed neither of these hypotheses. Knowing that the spore never left the red cell only after completing its cycle and then to immediately affect its entrance into a new cell, and that the flagellæ and crescents never penetrated a red cell, but kept afloat in the plasma, he concluded that these flagellae and crescents were by some method the means of transmitting malaria from man to man. Reasoning by virtue of his discovery that the mosquito, in sucking filarial blood, became infected with the filaria and thereby possibly (not yet proven) became the means of infecting man; so likewise the mosquito, in sucking malarial blood, might suck those flagellae and crescents into its body and in turn become the means of disseminating the infection.

It was from this suggestion of Manson's that Major Ross, in India, went through a laborious series of experiments in which he proved that a particular type of mosquito could become the conveyor of a particular type of malaria. This he abundantly proved in that type of bird malaria known as proteosoma.

Ross' experiments were conducted with the grey mosquito, a culex, known as culex pipiens. Ross then began to search for the particular species of mosquito which might convey the disease to man. At the same time Grassi of Italy, was unconsciously working in exactly the same field. They had in mind Manson's conjecture that probably "each hematozoan required a particular species of mosquito."

These men were enabled to announce at about the same time that human malaria was transmitted through the medium of the anopheles mosquito.

This discovery is one of the most important that has ever been effected in the history of medicine. (With this should be classed the equally important one given us by the United States Army Commission, that of the stegomyia faciata, as the conveyor of yellow fever. Although the germ of yellow fever has not, up to the present, been found.) This knowledge that malaria does not come from drinking swamp water, or sleeping on the ground, or inhaling night air, or change of residence to a warm climate, or by any of the usual means formerly ascribed as its mode of entrance; but that it is an animal parasite, a blood sporulating coccidum of the lowest type of protozoic life, having two cycles of existence, and invades man's blood only through the bite of the previously infected female mosquito of the genus anopheles.

This knowledge will today mightily clear up the misty realm of inaccurate diagnoses of the past and tend to ascribe certain results as being the product of certain causes.

In the brief limits of this paper, it will not be possible to more than touch on some of the more striking considerations of the subject. The enquiring mind will ask: Is the malarial parasite a completed entity, or does it undergo some evolution of form and function? In a personal correspondence from Prof. Ohlmacher (author of Pathogenic Microparasites in the American Text Book of Pathology) he says, "We are in ignorance concerning the evolutionary phases which have resulted in the perfect adaptation of these organisms to their parasitic existence in the human host and in the mosquito. As we encounter malaria today we believe that the organisms flourish only under two conditions: One, that of parasitism in the human host; the other, that of parasitism in the mosquito. It is not the present disposition to believe that this organism exists outside of the bodies of these animals in a condition which makes it possible for it to induce the disease." Dr. Theobald Smith, of Harvard University, says in his Shattuck lecture on malaria, "There is no evidence, experimental or theoretical, which assigns to the malarial parasite life outside of man or the mosquito; they spend their whole lives as parasites." And further on he says, "The malarial parasite is not created anew by telluric or meteorologic conditions, but it comes from some preexisting parasite." I cite these eminent authorities because some investigators are inclined to believe that the protozoon has to undergo an evolution in form and function. With reference to evolution or non-evolution of pathogenic parasites, Manson, in writing on tropical typhoid, says that, "Soldiers on the march in India contract typhoid in uninhabited country never occupied by man before and where the water of springs and streams are beyond suspicion of fecal contamination. From these data the inference is suggested that under certain conditions of soil and temperature the Eberth bacillus may exist as a pure yet virulent saprophyte for which an occasional passage through the human body is by no means necessary."

Again it might be asked, is man the only animal capable of being an intermediate host of the malarial parasite? You will recall that I have made mention of malaria of birds, halteridium and proteosoma, besides of animals, frogs and reptiles. This parasitic disease may better be termed an analagous malaria, for Manson says, "No vertebrate animal, except man, as we know, has malaria." But he says that there are possibly other phases to the parasite's existence; meaning, possibly, other bodies aside from man capable of being the intermediate host. In support of his conjecture he asserts that there are districts in Africa, India and elsewhere which are practically uninhabited by reason of the virulence of malaria; and the question suggested by this fact is: If malaria is endemic there without the presence of man is there some animal or host capable of acting as an intermediate?

In view of the newness of the mosquito hypothesis concerning malaria, some one will ask: How does the parasite gain entrance to the body of the mosquito? If we accept, and we must, the statements of Smith and Ohlmacher as just read, we can arrive at no other conclusion but that the female anopheles sucks the flagellæ or crescents into her stomach, and there these elements, being bi-sexual or gametes, produce a proper sexual fertilization by which the parasite becomes developed. But I quote the opinion held only recently by Grassi, who says, "Either the germ is undoubtedly in the egg and hence passes to the larva, the nympha (pupa) and the adult mosquito; or the larvae eat in stagnant waters with the remains of the body of the infected mother mosquitos and thus they infect themselves in turn." We might add that this is about the procedure of the infection of the cattle tick. But Celli, in working on Grassi's hypothesis, found the assertion untenable and says, "Up to now, neither morphologically nor experimentally, is it possible to demonstrate the hereditary transmission of the infection from mosquito to mosquito,

neither by the eggs nor the larvae which have eaten their spores."

It is always asked why is the aonpheles the only mosquito capable of transmitting malaria? I answer by quoting Dr. Howard, of Washington, D. C., the Government entomologist, "Nobody knows why the anopheles, and not the culex, is the secondary host. This is a question probably pertaining to the anatomy and physiology of the host (mosquito), but it has not yet been determined."

In connection with the knowledge that the anopheles is the only host of human malaria, it is also reasonable to ask why, in view of the fact that the anopheles punctipennis abounds through the North, is there not more malaria? I have repeatedly caught the A. punctipennis in our neighboring streams, yet the only cases of malaria in Bloomington, to my knowledge, have been those imported from the South. Dr. Howard, writing on this point, says, "The possibility is not yet excluded of there being another intermediary host besides man capable of harboring the parasite, and assuming that this were so, this host might have become extinct in the low lands where it is now known that the flora and fauna have altered." And concluding that the A. maculipennis is the variety that transmits the parasite of the estivo-autumnal fever (though we are in doubt concerning the connection of the different types of malaria with the different varieties of the anopheles), then our only theory for the mosquito and not the related fever with it must be as Smith says, "That the crude external character (of the mosquito) may be the same as those in the South, yet the physiology of the insect may be decidedly modified by a colder climate."

With that in mind we can take up a very important condition of the disease, namely, its recurrence. How long will it continue to recur after the system is infected? If a man, once thoroughly saturated with either type of the disease, removes into a temperate zone where there is no possibility for reinfection, the duration of his infection may be possibly three years, or even more. With this in mind, knowing that after a return from Cuba and the Philippine Islands, many of our soldiers present evidence of recurrence I wrote Dr. MacCallam, of Baltimore, and Dr. Theobald Smith, of Boston, both eminent authorities. I can do no better than quote these distinguished men. Dr. MacCallum: "It is well known that the symptoms of malaria may reappear after months of latency, in which the parasites have disappeared from the blood, and I think there is no reason why such a period of latency might not extend to three years. I should be very sure, however, that there had been no opportunity for reinfection during those three years and that the parasites now found are of the same type as those found there before making the statement that the case is actually one of so long duration." Dr. Theobald Smith: "Your query concerning the persistence of the malaria parasites in the human body is one about which no very definite evidence is at hand. The testimony from malarial infections in animals favor the view that the human parasites may persist indefinitely. At the same time we do not know precisely the effect of the quinine treatment, which may eventually rid the system. I am of the opinion that the occasional recrudescence of the disease, due to unfavorable conditions or accidents of life, tend to favor the persistence of the parasite, as well as its dissemination to others. Without doubt the near future will give us more satisfactory data."

Manson and Celli repeatedly speak of the possibility of its recurring after months or years from the time of invasion. It is interesting to know in this connection that the infected mosquito is not considered dangerous after some time has elapsed since receiving the infection. The sporozoites either die in her salivary glands or lose their infective properties. Just the opposite is true in the stegomyia of yellow fever. The longer from date of infection of the stegomyia the more dangerous and virulent, apparently, is her bite; but the yellow fever patient ceases to be infectious after three days from beginning of disease. The United States Army Commission kept infected stegomyiae about seventy days. How much longer they would

have retained the power to produce yellow fever could not be ascertained, as the mosquitos were devoured by the myriad of small ants.

Texas cattle fever has proved inoculable after nearly three years latency and proteosoma of birds after five months latency. As is now generally acknowledged, the deep viscera may continue for years to produce gametes, and symptomatic disturbances of a marked character might, especially after some systemic depression, continue to reassert themselves.

Physicians are frequently asked about acclimatization. In view of the great broadening of our commercial hemispheres and development of tropic and subtropic industries, people, with a view of such residence, will rightly ask what is there in acclimatization? All men who have ever lived in the tropics will tell you acclimatization is much a matter of care and common sense. There are several things which experience soon teaches the new resident. He must avoid fatiguing exercise in mid-day; he must abstain from strong drink, but especially through the day; he must boil his clothes to prevent contracting dhobie itch; he must boil the drinking water to prevent amebic dysentery; he must be vaccinated to avoid small pox; he must wear, especially at night, an abdominal band to prevent catarrhal dysentery, and lastly, he must avoid, as much as possible, the bites of mosquitos, and this he can do by screening his house and sleeping under gauze nets at night. The above enumerated rules are largely what acclimatization means, though it must be accepted as an indutiable fact that there is something further yet, for it is well known that the new comers are always prone to quick and severe attacks of the prevailing disease, from which the older residents seem to be free. The impression is also that the dark races bear a relative immunity to malaria. This I believe to be wrong. There never has been proved a special resistance in the blood of a black man to malaria. In my judgment he is as equally susceptible as is the white man. But his apparent immunity can be well explained on the observations of Koch and others. Their observation is that the native children are just as susceptible as the new white arrival. In the ravages of disease the weaklings are killed out. Those remaining live because of their stronger vitality. As they grow into maturity, while their blood continues to contain parasites, yet they are able to withstand this without much apparent harm. My own observations in the Philippine Islands was to the same effect. Pernicious malaria in its many associated forms, dysenteric or anemic, either slaughtered the children or so vitiated their constitutions that they became an easy prey to other disorders common to the climate. Celli supports this theory by giving the malaria mortality statistics of Italy for the year 1890. While always high, the ages from 5 to 20 years show a mean average of 44 per cent deaths as compared with half that per cent in adult life. Dr. Theobald Smith is inclined to think that there is an inherited immunity transmitted to children through generations of infection. I cannot agree with this, although I well know that the old diseases of civilization when introduced into new people, as is instanced in the Pacific Islands, sweeps them away.

If we take the ground that there is no such thing as inherited immunity, to what shall we attribute the cessation of the disease? In turn we ask why do the zymotic diseases have a period of self limitation? Why is typhoid generally three weeks; measles and other diseases limited to so many days? Is it because of phagocytosis, or any proliferation of homologous cells? I believe that, in view of the fact that many of these diseases ravage the system but once, nature must have developed some antitoxin peculiar to that disease whereby the system is spared the possibility of another attack; and, as in malaria, where the system acquires a so called tolerance and the blood destruction seems to be under control, it must be due, not to an inherited immunity as Smith suggests, but to all these means of phagocytosis, cell regeneration and possibly the production of an antitoxin whereby the system is saved from entire destruction. So then, acclimatization and immunity possibly

means, in addition to the observance of rules of health incident to the climate, the development of a new resisting physiological function not as yet elaborated.

With this brief review of some of the causes and role of malaria fever, the progressive physician of today will not be inclined to term every icteric hue or hepatic disturbance, every hidden febricula or toxemia, as malaria. And while knowing that this disease may assume some masked characters, the discerning mind, assisted by proper scientific means, will easily class malaria as a positive entity resulting from a definite cause.

AUTHORITIES CONSULTED—American Text Book of Pathology; Ander's Practice; Thompson's Practice; Stephens' and Christopher's Practical Study of Malaria, Liverpool School of Tropical Medicine; Nuttal's Role of Insects, Arachnids and Myriapods as Carriers of Disease, John Hopkins' Hospital Reports; DaCosta's Clinical Hematology; Journal of Experimental Medicine; Dr. Theobald Smith's Shattuck Lecture on Malaria; Celli's Malaria; Berkley's Laboratory Methods with Mosquitoes; Buel Colton's Zoology; Surgeon-General U. S. Army Reports, 1899-1901; Reports United States Commissioners Panama Canal; Manson's Tropical Diseases; Howard's Mosquitoes and Malaria; Propogation of Yellow Fever, by Major Reed, U. S. A.; Etiology of Yellow Fever, by Drs. Reed, Carroll, Agramonte and Lazear; Experiments on Cattle Fever, United States Bureau of Animal Industry.

Discussion of Dr. Bath's paper.

Dr. Wm. E. Quine, Chicago: A paper so exhausting in its minuteness and accuracy of detail should not be allowed to pass altogether without comment, and particularly without favorable comment. It is one of the most exhausting and accurate and intelligent presentations of the subject that has come to my notice. There are, however, problems connected with the study of malaria which are not explained and are not explicable, so far as I know, upon the basis of the data embodied in this valuable essay. A number of striking experiences have come within the realm of my own professional life, only one of which I shall mention.

A few years ago I was consulted by Dr. Bertha VanHoosen, of Chicago, on account of a temperature of 104.5° F. in a new-born baby, less than twenty-four hours old. The baby was born in midwinter when the temperature of the outer air was approximately 10° below zero. The next day the baby had a temperature of 105.5°, and on the next day it had risen to 107.5° F.

To make the story short, that baby was suffering from a malarial infection. Its blood was examined and found to be teeming with myriads of malarial organisms. The diagnosis was confirmed at the time by Dr. Gehrman, of Chicago, and the elder Klebs, who lived in Chicago at the time.

The baby was apparently moribund at the time the consultation was held. I suggested that a moderate dose of quinine be given the child per rectum. Through some misapprehension of what constituted a moderate dose of quinine for a baby three days old, a dose of nine grains was given the infant, and **mirabile dictu,** the infant remained alive, and that put an end to the febrile disorder, although some days elapsed before the blood was rid of the malarial parasite.

The blood of the mother was not examined immediately, nor was her milk examined. This examination was delayed owing to the preoccupancy of the family physician, but when finally the blood and milk of the mother were examined, no malarial organisms were found in them. But I have to admit in this connection that it was only the peripheral blood of the mother that was examined, and it is a well-known fact that peripheral blood may not show malarial parasites of the estivo-autumnal type.

Dr. Bath, closing the discussion:—I am very glad that Dr. Quine discussed my paper. Text-books speak to some slight extent of the possible hereditary transmission of malaria, but they are not definite on that point. I have looked this question up very carefully, but failed to find anything in favor of such transmission of the disease. Still the only reason why we might have malaria in midwinter, in an infant only three days old, is suggested on this hypothesis. It is a valuable point in this case that a blood examination was made and the malarial organisms found.

Thompson, in his text-book on practice, speaks of the case of a man who lived near an excavation in New York, and he contracted malaria. He could not go out, thus eliminating the possibility of infection. Thompson does not say whether or not a blood examination was made, and if so, fails to mention what kind of a parasite was found; but the man had malaria. He seems to be of the opinion that we still contract malaria from toxemia, from causes that arise out of the ground.

The only thing in regard to the three-day-old baby is this: It is possible for a mosquito to have been in the house and live there in a temperature that would not destroy it. The yellow fever mosquito will live seventy-three days until destroyed by the small ants that are very troublesome in the tropics. In New Orleans they find that the mosquito will live from fall to spring. Just how long it will live, we do not know, but we do know that it takes just seven days for the organism to develop in the mosquito, and about six days to develop the organism in man, consequently the case cited by Dr. Quine is interesting. It gives us a lone solitary incident of malaria occurring in a newly-born infant. The text-books have little to say about this; in fact, they only take up the transmission of malaria from the mother to the fetus.

I have no reason to doubt the correctness of the diagnosis made by Dr. Quine, because he said that when the blood of the child was examined they found malarial organisms present. Therefore, I take no exception to that case. I venture a conjecture without known scientific basis that the mosquito had fully-de-

eloped sporozoites in her glands and by the igh temperature of the room produced the he rule, otherwise it was undoubtedly a case of ereditary transmission.

Dr. Quine: The point I attempted to make vidently escaped your attention. The infant ad a temperature of 104° F. before it had been the world twenty-four hours.

Dr. Bath: I did not catch that.

THE PSYCHICAL EQUIVALENTS OF EPILEPSY.

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A. *Their Nature and Varieties.* While keeping in mind the wholesome advice of Clifford Allbutt, to generally refrain from definitions, I shall precede the subject of equivalents with a short, epitomized description of epilepsy. I am not speaking of the epileptiform manifestations from morbid alterations in the central nervous system during any disease, but of *idiopathic, genuine or essential epilepsy, which is a psychoneurosis, a disease of the entire nervous system in which there is a more or less periodic, paroxysmal disturbance of the controlling and directory mechanism of cortical centers upon one another, or, upon lower, subcortical or possibly medullary centers. Such a disturb*ance of the normal hegemony of certain centers is manifested either by paroxysms of abnormal motor, or psychomotor activity—which is the rule—or by abnormal inactivity, which is very much less frequent. Random, brusk release of one or more of these three mental energies, or a just as sudden and unmotived abeyance or suspension[3] of one or more of the mental faculties. It is then a disease, in which, besides other mental, nervous and somatic symptoms, there is a succession of cortical or subcortical storms, which take origin in, or at least depart from, certain rather indistinctly demarked regions of the cerebral convolutions or basal ganglia These supposed or real starting-regions may be (a) in the thinking or psychic portion of the brain, in the frontal lobes [psychic epilepsy] (b) in that part of the cortex which receives and elaborates special sense stimuli, i. e., the parietal, occipital, temporosphenoidal, uncinate and hypocampal convolutions; or (c) in the rather wide domain of general sensation (touch, temperature, etc.) both in pre and post Rolandic areas; or (d) in subcortical nerve-cells around the Rolandic fissure, causing motor symptoms. Of course, two or more of these regions can manifest their troubles together, and thus cause epileptic manifestations conforming to one of the several clinical varieties: psychomotor or sensori-psychomotor. It is easy to understand the raison d'être of a psychic epileptic syndrome, or of a psychomotor equivalent when viewed from the standpoint of localization of these various functions in the cortex or basal grey matter. But the studies of Hitzig, Flechsig, Horsley, and Féré, and the ideas of H. Jackson and of Brown-Sequard have given such undue value to the existence of motor convulsions that we are neglecting all other symptoms and confining our ambitions to the study of motor signs. Today, a convulsion is for most physicians[4] synonymous with epilepsy. A curious schism thus grew upon the medical profession: those men devoting themselves to neurology mainly, such as H. Jackson, Allen Starr, Gowers, and Tomlinson, and others speak highly of psychic or other equivalents of epilepsy, or omit entirely to mention them in their descriptions: the latter even denying their existence altogether[5]. Alienists and psychiaters, such as Morel, Falret, Legrand du Saulle, Maudsley, Kraepelin, Binswanger, Nothnagel, and others clearly and emphatically show the identity of psychic manifestations of epilepsy with the motor symptoms of the great psycho-neurosis.

A psychic equivalent is a true and legitimate evidence of idiopathic or essential epilepsy: *a clinical variety of that disease in* which the psychic manifestations exist alone or to the more or less partial exclusion of other symptoms. In fact, the domain of genuine epilepsy, considerably narrowed in one direction by the studies in secondary or organic epilepsy, *has shifted its ground towards the psychic portions* of the cortex and has thus enlarged its realm in another direction. The importance of the motor cortex has been exaggerated in the past, and the

fields of self-consciousness, and of idea-association, and the thinking or psychic region are now receiving their due attention.

To fully understand the term psychical equivalent, we must study the conditions that necessitated the existence of this term, its genesis, development and maturity. Epilepsy itself has been known and described since the dawn of medicine, but it was not until Trousseau[7], Jackson and Griesinger began to prune out that great clinical tree of epilepsy, and such terms as paroxysmal migraine, symptomatic or Jacksonian epilepsy, and epileptoid conditions cropped out as a result of their efforts. Almost simultaneously European alienists, notably Falret, Samt[8], Maudsley began to classify as epileptic certain nervous disorders, considered as closely allied to epilepsy or as epileptoid by previous clinicians.. They confirmed the views of older investigators and established the psychic epilepsy upon a firm basis. Binswanger[9] ardently supports the grand mal intellectual and petit mal intellectual of Falret, which that author claimed to be parallel with and analagous to motor grand and petit mal, except that in the former, psychic symptoms appear alone or with such predominance that any motor symptoms occurring might be so slight as to be difficult of detection. Moebius goes so far as to deny every motor manifestation in psychical equivalents. But I shall keep away from debatable questions and enumerate the varieties:

1. Vertiginous attacks.
2. Absences.
3. Attacks of Amnesia.
4. Dreamy states.
5. Impulsive states.
    a. Homicidal, suicidal, destructive.
    b. Exhibitionism.
    c. Pyro-Clepto-or dromo-mania.
    d. Dipsomania, seldom polyphagia.

Before going into the details of these several forms of psychic equivalents, it is necessary to caution the reader against the following sources of error: 1st, an epileptic equivalent may be simulated very closely by some periodic exacerbations of other mental diseases; 2d, there is a very hazy boundary between true epilepsy and some cases of Jacksonian epilepsy; and, again, eclamptic symptoms from acute or chronic intoxications may lead us astray. However, in difficult cases, a careful search and lookout for motor sypmtoms, scrutinizing inquiries into the entire anamnesis and, minutest examination for the psychic and somatic earmarks of epilepsy, will in nearly every case decide the question.

1. *The vertiginous attacks*, paroxysms of giddiness, during which the patient has an objective or subjective sensation of turning moments of himself or of the things around him. A sudden disorientation seizes upon him although he rarely, actually rotates[10]. Motor symptoms are slight or absent.

Consciousness is not so profoundly affected as in petit mal. The whole attack may last one-half to two minutes. It may fairly closely simulate the "dizzy spells" of senile psychoses, of arteriosclerotic disease, of the Stokes-Adam syndrome, and of general palsy of the insane. The most typical attacks of vertiginous equivalents occur in younger people in whom other causes of vertigo are absent, and in whom the ancestral and personal findings of the great psychoneurosis are present[12].

2. *Absences*: A temporary or momentary shunting off of consciousness, not a complete suspension. There is a transitory leak in consciousness with clouding of the intellect, along with which may be no other external motor symptoms, except some salivation, and chewing motion, or, irrelevant, mumbling talk. But, the peculiar troubled, staring look is the prominent objective sign, and the patient and even his friends, may not know of these spells at all, until special inquiry is made for them. The patient will usually resume his broken off conversation or work as if nothing had happened.

A friend of mine from Ohio had such an attack, while we were at the table. He was carving the fowl, when he suddenly ceased cutting, staring far off, and became very pale; all of which lasted about half a minute, and then he completed his duties of host. The family looked at him and then at me knowingly: the spell was over, and we all strove

to cover up the fleeting shadow that had just passed over my friend's mentality.

3. *Attacks of amnesia*: the analogues of absences, only that the former involves memory, and the latter consciousness. Thus the patient will find himself suddenly devoid of all memory of past things, persons and times. The same gap in memory as during absences in consciousness. The two may coexist, or interchange. The epileptic nature is shown by all the characters stipulating any of the varieties of essential, genuine epilepsy. During the temporary suspension of idea-association, and idea-formation the lower, subcortical, and automatic centers continue to functionate in spite of the mental vacuity.

4. *The Dreamy State* of Hughlings Jackson Dämmerzustand of the Germans, état crepusculaire of French authors, and automatism of Gowers[13] are synonymous. This condition, like every manifestation of epilepsy, is sudden, without motive, and usually without warning. The onset of this solution of continuity of self-consciousness is followed usually by a just as brusk restoration to the normal state. Duration from a few minutes to several hours or days and even weeks, and the return to consciousness always accompanied by simple or retrograde amnesia[14]. It is a hypnotic state from auto-suggestion, and, acts performed in the dreamy state may be coordinated and apparently premeditated, so much so that some well-known and well meaning jurists have held such patients responsible for crimes committed in this state. This is opposed to by Kiernan, and other leading alienists[15]. If such patients during the dreamy state carry out their plans with great precision and irresistible energy, it is because their mind is free and unhampered by any idea from the past—memory being in more or less complete abeyance. The degree of automatism and amnesia varies in intensity with that of the dreamy state[16]. The immense clinical and forensic importance of this variety of epileptic equivalents is at once evident, but there is no other chapter in legal medicine which is so little known as this one.

5. *Impulsive states*: Characterized by the irruption upon the patient of uncontrolable sensations of fear, anger, dread, rage, religious fervor, sexual desire, craving for drink, and so forth. During such conditions, acts may be performed, which are not in line with our social, moral, or legal code[17]. It is just these infractions that will bring the individual before the lawyer and the psychiater. It is easy to understand that the underlying psychosis remains the same whether a case will be called pyro, klepto, or dipso mania, or one of suicidal, homicidal, or destructive mania, or one of satyrism. The foundation is the same no matter which principle is violated, and the patient is either entirely irresponsible or only partially accountable for any acts committed during such impulsive states.

In the impulsive psychic manifestations of epilepsy the patient is not guided or impelled by any systematized delusions or hallucinations, but rather by an unprovoked, imperious sensation, a craving for satisfying a certain desire. The direction may be given to these impulses by the environment, by chance, and especially by the inherited tendencies, but I agree with A. Petit[18] in that the cerebral soil, antecedent to the first epileptic seizure will determine the kind of epileptic manifestation exhibited by the patient and, as a rule will be continued more or less stereotypedly. Thus, one patient may show spells of amnesia, another of impulsiveness, a third of vertiginous attacks. Certain brains are a soil for maniacal outbursts, others for depressive states. The causes accounting for this selective thriving of certain psychopathic plants upon a given cerebral soil are too complex to allow of our successfully analyzing them with our modern means of precision. Again, just why certain social, family and political surroundings will prompt one impulse in this direction and another one into a different channel, can not even be surmised. The ablest psychiaters will find it extremely difficult to foretell in which direction a given impulsive patient will spend his paroxysms of unbridled mental energies.

The factors determining this are multiple and intricate in character, yet I venture to say that, if the parents had psychic epilepsy, the same form will probably exist, either alone in the child, or at least overshadow in intensity any other symptoms. Practically, this makes little difference so long as we classify such cases correctly into the category where they belong—namely, epilepsy.

B. Diagnosis of Psychic Epileptic Equivalents: I have not spoken either of the pathology of epilepsy or of the pathogenesis of the seizures. The former, practically, does not exist[19], and, indeed, if we consider the nature of essential, genuine epilepsy with unbiased mind, we will all agree on the following facts: (1) Here is a disease, beginning in the first or second decennium of life, lasting the whole lifetime of the afflicted individual, without causing death directly. No other known morbid entity does this. (2) No definite and constantly occurring pathological findings have been established as yet. (3) The striking clinical intermittency of its attacks, which in many cases are distinctly stereotyped, points to a teratological defect in some portion or constituent of the central nervous system, rather than to acquired morphological changes.

For any given convulsive seizure, psychic or somatic, the essential thing is to decide whether we have to do with an epileptic manifestation or with the epileptiform symptom of some other toxic, infectious, or degenerative disturbance of the nervous system. However, it is beyond the scope of my present paper to expatiate upon this part of the diagnosis, and I shall content myself with the elucidation of the second part in importance, that is: Which form of epilepsy does a given symptom betoken. To answer this question, I shall follow here with the resemblances between motor and psychic seizures, in order to show the common trunk from which both spring:

1. Essentially periodic recurrence of attacks.

2. Paroxysmal more or less marked disturbance of consciousness, up to its complete suspension.

3. Beginning of real seizures, psychic or motor, and usually also their cessation, brusk, unmotived[20].

4. Concommitant amnesia, either simple or retrograde, i. e., preceding the attacks for several hours or days. This lack of recollection is *very significant* for epilepsy.

5. Tendency to automatism, dual existence, hypnotic state, sudden outbreaks of anger, fear, etc.

6. Some sort of aural prodroma may be found in most cases, upon close inquiry.

7. In every case of true epilepsy, there is marked ancestral and collateral heredity to be found, regardless of the variety of its manifestation.

8. *There are certain, permanent character changes to be found in almost every* epileptic[21]: Pious inclination, a pedantic disposition, lowered morality[22], especially a tendency in the character to impulsive, often brutal actions. Indeed, the epileptic murderer, or thief, pyromaniac, differs materially in his methods of perpetration from other criminals. Alienists, good jurists, and detectives are unanimous in this regard.

9. The memory is more or less extensively impaired in every case of epilepsy, especially in the psychic or silent forms[23].

In conclusion, I hold as points in the diagnosis of psychic equivalents the following:

1. Careful study of the parental, ancestral and collateral history of the patient, as well as thorough search in his personal antecedents.

2. Complete, or, partial exclusion of coexisting morbid conditions that can give rise to epileptiform symptoms, such as infantile encephalopathy, alcoholism, syphilis, general paralysis, on the one hand, and automatism and the stigmata of degeneracy on the other (Lombroso).

4. Remember that hysteria, or neurasthenia, and any of the psychoses may co-exist with psychical epilepsy, and obscure or cover up more or less the symptoms of that latter disease.

5. *Distinguish carefully between psychic equivalents and inter-paroxysmal, or post-*

epileptic psychoses. The medico-legal importance of this distinction is enormous.

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SOME NEWER CONCEPTIONS OF THE NATURE AND THE MANAGEMENT OF BRIGHT'S DISEASE.*

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NOMENCLATURE AND DEFINITION.

The terms Bright's disease, nephritis and even albuminuria are not uncommonly employed synonymously. It appears almost trite to correct this popular misconception by the statement that Bright's disease is a systemic disorder that usually, but by no means invariably, produces nephritis; that nephritis is often due to Bright's disease but may also be due to a great number of other causes; and that albuminuria is a common, though not a constant, symptom of any form of nephritis. The term "Bright's disease of the kidney" is, therefore, not tautological, as many claim, although "the kidney of Bright's disease" would be a more correct expression. The term Bright's disease could with advantage be eliminated altogether from modern medical nomenclature, for what Bright originally described included many renal disorders that have since been shown to be morbid entities *sui generis*. To retain the term, therefore, means confusion.

The cardinal symptoms of Bright's disease in the newer sense are, in the order of their frequency and sequence, (1) cardio-vascular; (2) nephritic; (3) cerebral; (4) retinal.

The cardio-vascular signs must appear first. The idea that the kidneys are always primarily involved, that as a result of renal inadequacy certain excrementitious bodies are retained, and that these produce the changes about the heart and arteries, the eye ground, the brain, does not apply to Bright's disease as I interpret it. This sequence of events unquestionably occurs in many forms of nephritis, but these are not cases of Bright's disease, for many nephritides run their course without cardio-vascular changes, and above all, without retinal or cerebral symptoms.

The intoxication of the heart and arteries, with the resulting high blood pressure, leads to nutritional disorders in different parts of the body. It is not surprising to find that particularly those organs that are supplied by *end arteries* are chiefly involved, for in them vascular disturbances must first produce nutritional derangements. Chief among the organs supplied by end arteries are precisely the kidneys, the retina, and the brain, and I think this explains the fre-

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quent involvement of the kidneys, eyes and brain in Bright's disease. The fact that the retina and the brain are often injured before the kidneys, that cases of Bright's disease run their fatal course occasionally with practically no renal changes, but with serious apoplectiform brain lesion and retinitis, bears out this conception and constitutes a valid argument against the common belief that the nephritis is the primary event and the determining phenomenon of the disease.

I can best illustrate the idea I am trying to convey by the statement that one is just as little justified in claiming that in Bright's disease the kidneys are always the first organs affected, and that as a result cardio-vascular, retinal and cerebral symptoms develop, as one would be justified in claiming that in this disorder the retina is first diseased, and that as a result of the retinitis the heart, the arteries, the brain and the kidneys became diseased.

That various symptoms, that one might call tertiary, follow the nutritional and degenerative changes in the various organs affected, need hardly be emphasized. I refer, e. g., to the edemas, the retention of solids and water, and the other evidences of renal inadequacy that are consecutive to the nephritis.

CAUSES.

I am an ardent convert to the belief that Bright's disease is produced by circulating toxins. Of the exact chemical character of these poisons we know very little. Their presence, however, is clinically revealed to us by their manifestations. There seems little doubt from the experimental evidence at our disposal that some of them are intermediary poisonous precursors of non-toxic terminal products of metabolism, that have escaped oxidation. I refer, for instance, to the group of purin bases, including such bodies as xanthin, hypoxanthin, etc., that are normally converted into innocuous uric acid and are eliminated as such. These purins or alloxuric bases, as I showed in 1900 ("The Role of the Alloxuric Bases in the Production of the Cardio-Vascular Changes of Nephritis." American Journal of the Medical Sciences, 1900), are capable, when injected in small doses for long periods of time, of producing the changes about the heart and arteries and kidneys that are so characteristic of Bright's disease. Many other products of perverted or arrested metabolism, as well as several inorganic salts when present in excess, and many poisons of gastro-intestinal origin, are capable of exercising the same effect.

The source of these bodies is two-fold, namely, the gastro-intestinal tract and the proper tissues of the body. There is no more prolific source of poisons than a disordered bowel. Digestive disorders not only directly lead to the formation in the intestines and the absorption into the blood and tissue juices of a mass of abnormal and highly toxic degradation-products of the proteids, fats and carbohydrates of the food, but they also indirectly lead to *hepatic insufficiency*, a disorder that is instrumental in causing a flood of poisons to circulate through the organism. It is not surprising to find that the liver cells are so often impaired in their function when the gastro-enteric tract is disordered, for all the poisons generated there are sucked up by the root tendrils of the portal tree, and we are carried through an intricate labyrinth of closely interwoven capillaries around and through and into each hepatic cell; for a time the latter may withstand the stream of toxic matter and can properly exercise their disintoxicating function, but an overwhelming mass of putrefactive material flooding them at one time, or small quantities of putrid excrement irritating them chronically, must needs impair their function and render them inadequate to protect the organism as a whole from bowel poisoning. When this occurs, intestinal toxins filter through into the circulation beyond and there can exercise their deleterious effects upon the heart, the arteries, and also those organs that chiefly supplement the disintoxicating function of the liver by eliminating poisons, namely, the kidneys.

One other consequence of this hepatic insufficiency is the incomplete elaboration of the aforesaid intermediary products of metabolism that reach the liver from the general

circulation. When the liver cells can no longer properly perform their many functions because they are poisoned from the bowel, then these bodies that circulate around each hepatic cell in a network of lymph and blood-channels as intricate as the capillary branches of the portal system can no longer be converted into innocuous end products, like urea, uric acid, creatinin, etc., but are returned to the general circulation unchanged as poisonous ammonium salts, purin bases, and a host of other bodies that, unless rapidly eliminated through the kidneys, produce a chronic auto-intoxication.

Finally, the character of the bile becomes changed, its physical properties are perverted, it no longer flushes the bile channels in a broad stream, but often becomes more thick and viscid, so that some diapedesis of poisonous bile constituents from the bile into the blood capillaries occurs; the change in the quantity and composition of the bile reduces its germicidal power so that intestinal putrefaction is increased, or, at least, not checked; constipation supervenes, right disassimilation of the enteric contents is prevented; the assimilation of fats is decreased, and consequently the general nutrition is disturbed. In this way, a vicious circle is closed, and both in the bowel and in the tissues at large poisonous bodies continue to be formed that are capable of producing numerous disorders, among them many of the symptoms of Bright's disease.

TREATMENT.

Based on the above conception of the gastro-enteric, and by implication, hepatic origin of many cases of Bright's disease, an intelligent prophylaxis and a conservative treatment of early stages of the disease should be directed towards the correction of the disorders in the bowel and the liver. I am a firm believer, from my clinical observations, in the digestive origin of many—I might say most—cases of Bright's disease, and I believe that in numerous cases early attention to the digestive tract will check the progress of the disease, and not infrequently produce a restitution to normal even when the heart is already considerably hypertrophied, and when the kidneys are already showing evidence of nephritis.

There are other cases of Bright's disease that are due to obscure metabolic perversions that we do not understand; these are more difficult to handle because we have nothing tangible to attack, for who can intelligently combat a tissue anomaly that is hereditary in character and in which a dark neurosal element manifestly plays a commanding role? Here the prognosis, in the light of our present knowledge, is bad, and all treatment of necessity symptomatic.

Symptomatic treatment in Bright's disease is not, however, the conventional treatment of the kidneys, but the treatment of the *heart* and of the *arteries*. This is clear from what has been stated above. Later, when nephritis is established, it becomes incidentally necessary, of course, to counteract the bad effects exercised upon the organism as a whole by the inadequacy of the renal function.

The management of Bright's disease may fitly, therefore, be discussed under these several heads: *First*, prophylactic and causal, directed against the perversion of the digestive and hepatic functions; or, when possible, against the development of the aforesaid obscure metabolic disorders. *Second*, symptomatic, directed primarily against the development of cardio-vascular changes; secondarily, against the results of nephritic changes. The symptomatic treatment of the common cerebral and retinal changes is synonymous with the treatment of the heart and arteries. *Third*, treatment of the patient as a whole; this is of paramount importance, particularly as regards the maintenance of general nutrition by adequate, if necessary mathematically regulated feeding, and as regards the prevention of nervousness and of those great perverters of all functions viz: depression, fear and worry.

It is not my intention to discuss all the elements of the management of a case of Bright's disease; I merely want to emphasize some of the therapeutic means that have been envolved from the newer reasoning out-

lined above, and that have proven useful in my hands.

TO PREVENT INTESTINAL PUTREFACTION.

Aside from the common dietetic rules, the lavage of the stomach, etc., two remedies have been found of particular value, viz., the sulpho-carbolate of zinc and the bile acids. While neither of these substances constitutes an intestinal antiseptic, I do believe that the proper administration of either of these drugs can check at least the putrefactive decomposition of albumins; and as the albumins furnish the bulk of the most toxic intestinal bodies something is gained hereby. I have been in the habit of giving the sulphocarbolate of zinc in one grain doses at frequent intervals, together with some twenty grains of bismuth subnitrate in the twenty-four hours. The bismuth salt I utilize merely as an indicator of the action of the sulphocarbolate of zinc, in the following sense: It is well-known that the putrefactive disintegration of albumin leads to the formation of sulphides; the latter combine with bismuth salts to form black bismuth sulphide; hence the administration of bismuth by mouth practically always leads to the formation of black stools, because there is nearly always some putrefaction going on in the bowel. If, however, sufficient sulphocarbolate of zinc is given, all putrefaction will stop, and the stools, despite the administration of bismuth, do not become black. The proper dose, therefore, of sulphocarbolate is *enough* to prevent the formation of bismuth sulphide in sufficient quantity to color the feces. When this is accomplished, it will be found that the urinary evidence of bowel putrefaction also disappears, as manifested by the reduction of the indican, and the other conjugate sulphates, the compound glycuronates, and the compound glycocolls.

The administration of bile salts is of value, because these bodies possess marked germicidal properties and, moreover, constitute a very efficient cholagogue and stimulant of the hepatic function. Their administration may, therefore, be imagined to aid in combating casually and directly the development of hepatic insufficiency and its consequences. At all events, their effect upon the constitution of the feces and the urine as far as the elimination of putrefactive bodies is concerned is almost as marked as in the case of sulphocarbolate of zinc. I have been so far unable to find that other so-called intestinal antiseptics act as well or as rapidly as the two named bodies.

TO STRENGTHEN THE HEART AND REDUCE THE BLOOD PRESSURE.

Notwithstanding the chronic character of Bright's disease, I am not afraid to give digitalis from the beginning, and to continue its use for years. Large doses are unnecessary and even harmful, because the heart is already over-stimulated, but small doses, and by this I mean one drop of the tincture three times a day, influence the heart's action in a favorable manner, not by prolonging the diastole and enforcing the systole, but by rendering the heart less susceptible to the disturbing stimulation of circulating toxins. That digitalis possesses this power has been demonstrated experimentally. I give small quantities of digitalis not, therefore, in order to stimulate the heart, but in order to regulate it and to protect it from the effects of a chronic intoxication. The heart does not thereby lose its power to respond to larger doses of digitalis, so that the objection that one should keep digitalis to the last, in order to "have something in reserve," becomes invalid.

Better than digitalis and its congeners is the exercise treatment of a heart in Bright's disease that needs stimulation and whose muscle tone is beginning to flag. A Schott treatment often accomplishes wonderful things in Bright's disease; unfortunately it is not easy to carry out unless one can absolutely control the patient. Where I have been able to apply it, the results have been excellent throughout, even upon the kidneys; the albumin almost invariably decreases, and the excretion of solids increases within a short time.

To reduce the blood pressure, nitro-glycerine is the favorite remedy, and justly so. I have recently begun to use erythrol tetranitrate, a preparation that seems to grant a

prolonged vaso-dilator effect. It is good practice to keep patients under the influence of this drug for long periods of time, particularly if one is attempting in the meantime to discover and remove the underlying cause of the increased arterial tension. As far as the nephritic manifestations are concerned, vaso-dilation is of much value, for one may, I believe, say axiomatically that as soon as the blood pressure falls in the kidneys, the albuminuria decreases, and the renal epithelia regain their tone and become better able to perform their functions.

Valuable adjuvants to the drug treatment of high arterial tension are certain physical means, and I cannot say enough in praise of the hot bath, rest in a warm bed, judicious life in a warm, dry climate and massage; in fact, of any measure that causes prolonged dilatation of the superficial blood vessels. To enter into the finer mechanism of this effect, to discuss the exact indications for the employment of these different measures in varying individual cases, would lead me too far.

FOUR POINTS IN THE TREATMENT OF THE NEPHRITIC MANIFESTATIONS OF BRIGHT'S DISEASE.

I wish to emphasize, because they are modern. I refer (1) to the use of a more liberal diet (2) to the restriction of liquids; (3) to the withdrawal of chlorides; (4) to the so-called surgical treatment of Bright's disease.

LIBERAL FEEDING IN THE NEPHRITIS OF BRIGHT'S DISEASE.

In feeding any case of nephritis, two fundamental axioms should be followed, viz.: (1) To give a diet that is least irritating to the kidneys. (2) To adequately nourish the patient. For by following the first rule we place the kidney, relatively speaking, at rest, we spare the diseased organ; by following the second rule we bestow upon the organism as a whole sufficient strength to combat the disease process, and to undertake regeneration where degeneration has taken place. In all acute forms of nephritis that run a short course, the sparing of the kidney is the most important task, as the organism has enough reserve pabulum in storage to maintain adequate nutrition during the short duration of the disease; in such cases underfeeding or even starvation of the patient is not only permissible, but good practice, for the less of excrementitious material the kidneys are forced to eliminate, the more rapidly do they resume their normal function. One may say in a broad sense that the daily amount of feeding, expressed in caloric values, should be inversely proportionate to the presumable duration of the nephritis. Hence the more chronic the nephritis, the more nutritive should be the diet, and as the nephritis of Bright's is the most chronic variety we have to deal with, a case of Bright's disease should receive daily the full caloric value in his diet that is required to maintain nutritive equilibrium, i. e., at least 30 calories per kilo of body weight.

Whereas, therefore, in certain acute and subacute forms of nephritis a milk diet is permissible, even useful—for, I may add in parenthesis, a milk diet reduces intestinal putrefaction and hence removes a prolific cause of renal irritation—such a regime, as I have pointed out elsewhere (The Dangers of an Exclusive Milk Diet, etc., Medicine, May, 1903), is to be condemned in the chronic forms of nephritis, and in particular in the nephritis of Bright's disease. The chief arguments against this popular mode of feeding are these: (1) In order to adequately nourish the patient with milk, enormous quantities must be given, and when enough milk is given the albumins are much in excess (200 to 300 gr. instead of the normal 100 gr. in the twenty-four hours); this imposes an excessive task upon the kidneys and renders the restriction of albumins that is attempted by the withdrawal of meats fictitious. (2) The administration of large quantities of milk causes flooding of the heart and arteries with water, and hence must act deleteriously upon an already overtaxed cardio-vascular apparatus. (3) Milk is deficient in iron and an exclusive milk regime, if carried out for long periods of time, leads to deficiency of hemoglobin and all the dire results entailed thereby. (4) The constant

dilution of the gastro-enteric secretions is harmful. And (5) an exclusive milk diet must needs sooner or later become monotonous and distasteful, and hence deprive the patient of the psychic stimulus of appetite that is all-important for proper digestion.

For all these reasons an exclusive milk diet should be condemned in Bright's disease. There is, moreover, no compelling reason why a mixed diet should not be given. It is puerile and altogether unscientific to postulate that the albumin given by mouth will reappear as such in the urine, and that the more albumin the patient eats the more will he secrete—and still this prejudice exists in the minds of many. A diet containing variety and above all a diet of sufficient caloric value to nourish the patient should be carefully selected, and only those articles excluded that we know lead to the formation of urinary end products that are eliminated with difficulty, and hence can be assumed to irritate the kidneys when they are diseased. The details of this selection cannot be given within the narrow frame of this article.

THE RESTRICTION OF WATER DRINKING.

This point has been touched in discussing the dangers of an exclusive milk diet above. Regarding Bright's disease as a primarily cardio-vascular affair, it stands to reason that the flooding of the heart and arteries with much liquid can only increase the arterial tension, and overwork the heart. It is common practice to give much water in all forms of nephritis (witness the many waters on the market that are sold as "cures" for Bright's disease, etc.!), the object being presumably to "flush out the kidneys." I regard this as fictitious, excepting in the convalescent stage of certain clearly circumscribed varieties of parenchymatous nephritis. The first thing the kidneys stop eliminating when they become diseased is water; hence water in this stage passes the kidney parenchyma with difficulty, and to attempt to force it through is to irritate the kidneys when they should be kept at rest. The same axiom modified applies to subacute forms of the disease. In late stages of interstitial nephritis, it is true, polyuria appears, but the urine contains few solids in solution, and there is practically nothing to "flush out." Here, then, it is of no value to the kidney, and directly harmful to the heart, to give large quantities of fluid, and in this way to increase the flow of urine.

That water is irritating to the kidneys when they are diseased is manifested by the good effects exercised in many cases of nephritis by sweating. There is no evidence to show that the sweat of nephritics contains much of toxic bodies; it does contain some urea, a moderate quantity of common salt, and above all abundant water. The chief advantage, therefore, of sweating seems to be to rid the organism of the *water* that the kidneys cannot properly eliminate. The common habit, therefore, of sweating a patient, on the one hand, and giving him abundant water, on the other, is irrational, for to do this is to neutralize the good effect of the sweating, to irritate the kidneys and to overtax the heart and arteries. I have made it a broad rule to gauge the water intake largely by the water output—carefully considering all the while the particular requirements of each case. I never force water drinking, but am always more inclined to restrict fluids.

THE WITHDRAWAL OF SODIUM CHLORIDE.

It is a well-known fact that nephritic kidneys commonly fail to properly eliminate sodium chloride, i. e., ordinary table salt. A very ingenious theory has been advanced to show that this retention of chlorides in nephritis can in part be incriminated with the production of edemas; the idea being that sodium chloride in the tissues requires a certain amount of water to hold it in solution in such dilution that the normal molecular concentration (i. e., the osmotic pressure) of the blood and tissue juices is not changed (one of the chief functions of the kidney being that of an osmo-regulatory apparatus, intended to eliminate salts when the blood concentration becomes too great). It is postulated that the sodium chloride retained in the tissues draws water from the blood by a process of osmosis, and that hence edemas develop. Basing on this the-

ory, the attempt has been made to restrict the ingestion of chlorides, i. e., to withdraw table salt from the diet for the purpose of reducing edemas, by giving the kidneys a chance to slowly get rid of the accumulated chlorides. Clinically, this experiment has quite often given favorable results, and I have, in common with many others, repeatedly seen edemas disappear (and incidentally albuminuria often decrease) when the chlorides were excluded from the food. On the other hand, edemas in such cases can often be caused to reappear when salt is again given. As 100 grains of common salt require about three pounds of water to form the proper physiological solution in the body, it is clear that any sudden increase in the weight of the patient may mean salt-and hence water-retention, and should put us on our guard for deep edemas; and above all it should induce the careful clinician, tentatively, at least, to withdraw the chlorides from the food.

THE SO-CALLED SURGICAL TREATMENT OF BRIGHT'S DISEASE.

The operation of decapsulating or splitting the kidney for the cure of Bright's disease may be mentioned merely to be condemned as altogether irrational. I do not consider it impossible that nephrotomy or capsule-splitting, by temporarily relieving tension, may improve the blood supply to the kidneys, and hence may restore for the time-being some functional activity to the organs; and that this improvement in the renal function may become manifest by a decrease in the albuminuria and an increase in the excretion of solids and water and a reduction of nephritic edemas. When we consider, however, that Bright's disease is a systemic disorder, and that the nephritis, as outlined above, is merely one of many symptoms of this general disease, it becomes apparent at once that any treatment directed towards the kidney alone, whether surgical or otherwise, is purely symptomatic, and can in no way be considered as curative. Moreover, I fail to find in the literature a single case that can clinically be considered a true case of Bright's disease that has ever been permanently benefited by decapsulation of the kidneys. The majority of case reports are unfortunately so inaccurate, as far as the diagnosis of the disease is concerned, that they are practically without value in deciding the uses of surgery in the treatment of Bright's disease.

Discussion on the Paper of Dr. Croftan.

Dr. Frank Billings: Mr. President—It is getting late, and we have another paper to be read. I do not want to take up very much time, yet this is such an important subject that we should not let it go by without saying something on it now or at some subsequent meeting. No subject in private practice is more important than this one, and while I appreciate what Dr. Croftan has said, I am sorry that I cannot agree with all he has said. In my experience the treatment of chronic nephritis of Bright's disease in its different types is not so simple as he has stated. I would begin by saying axiomatically, as he did in closing, that in the treatment of Bright's disease I would treat the individual as to diet, medication, and what not, rather than say I would treat his heart and blood vessels, because while there are types of Bright's disease that differ individually to such a degree that anyone, who undertakes the treatment of Bright's disease as it has been in the past, and gives the patient, because we find albumin in the urine, a certain diet or certain medication, and disregards the individual, whether that diet be as Dr. Croftan has said one that nourishes the patient, without regard necessarily to its albuminous or other nature, or if we give digitalis or the vaso-dilators without regard necessarily to the individual, he is not doing his duty to his patients. First of all, therefore, in my conception of the study of the kidneys of those dead of Bright's disease or nephritis, and in my clinical experience in watching the course of these diseases, I cannot believe what Dr. Croftan states, that in many cases, as I understood him to say, or in most of the cases of Bright's disease, the proper treatment is directed to the cardio-vascular system. One of the most significant facts in relation to Dr. Hamilton's paper to-night in reference to the constant presence of streptococci in throats, and the fact that occasionally clinically streptococcic infection of throat or other local spot in the body in an individual may mean septicemia with a local condition, nephritis. My conception of nephritis of the future is that in the great majority of cases it is the result of bacterial invasion. In spite of what Dr. Croftan has said, I shall continue to treat my patients with the belief that I have always had, which agrees particularly with him, that in that type of diffuse chronic kidney inflammation—Bright's disease, perhaps, as he states—with cardio-vascular changes, it is well, if possible, to maintain the cardio-vascular integrity by individual treatment, in diet, with or without drugs, as the case may be, and I would study that individual's blood pressure and nutrition as one would a case of diabetes.

That is my conception of the rational treatment of Bright's disease. In the parenchymatous form, which occurs so frequently as a complication, or as a coincidental or sequential part of the infectious diseases, like diphtheria and scarlet fever, there is bacterial invasion, the disease comes on usually rapidly without cardio-vascular fibrosis and hypertrophy of the heart. There is, instead of fibrosis in these cases, fatty degeneration everywhere, and these cases need entirely different treatment from the so-called Bright's disease, with its cardio-vascular changes. I respect Dr. Croftan's opinions and the good work he is doing, and my criticism of his paper is only my opinion expressed in all friendliness to him.

Dr. Arthur R. Elliott: I should like to say a few words on two points, namely, the etiology of Bright's disease, and the treatment of the cardio-vascular system, as suggested by Dr. Croftan. I am myself a thorough convert to the toxic theory of the etiology of Bright's disease. I make no exceptions to this statement. The acute nephritis, which accompanies the exanthemata, notably the scarlatinal form and the nephritis of diphtheria, if we are to believe the investigations of such men as Furbringer and Neumann, is not due to the localization in the kidney of bacteria, but to irritation of the kidney, the kidney being overwhelmed with bacterial toxines which are elaborated in the system from the activity of the streptococcus or whatsoever germ is operative.

In interstitial nephritis I have long held (and three years ago presented to the American Medical Association a consideration of the etiology of nephritis) and maintained the theory that chronic interstitial nephritis is the result of prolonged irritation of the kidneys from a chronic, low-grade poisoning from the bowel, the result, as Dr. Croftan has said, of absorption from the bowel of toxines elaborated there as the result of activity of putrefactive bacteria.

The late Dr. Purdy used to say, regarding chronic interstitial nephritis that 75 per cent. of cases died from heart failure, and he insisted upon the importance of treating the individual from a cardiac standpoint. If we observe closely the clinical history of cases of chronic interstitial nephritis, we find they get on very well; polyuria continuing edema remaining absent; so long as the heart remains adequate; but just as soon as the heart shows evidence of inadequacy the patient becomes ill. Perhaps, for the first time, in his experience, edema develops, and polyuria gives place to relative anuria, and the patient is in danger. This is the common history of cases of chronic Bright's disease of the interstitial type. In chronic parenchymatous nephritis the cardio-vascular changes are not usually progressive, but still exist, and digitalis and cardio-vaso-dilators are indicated, but not so imperatively or for continuous administration as they are in chronic interstitial nephritis. I do not agree with Dr. Croftan that the administration of small doses of digitalis early in the case that shows cardio-vascular development is indicated; but prefer to reserve digitalis for the period of cardio-vascular inadequacy and evidence of heart break-down.

Dr. Croftan, in closing, said: I have nothing to add except to correct one little misconception. The reason why Dr. Billings takes issue with me on one or two points is because we do not exactly agree on the nomenclature. Some of the recent authors, and some of the older ones, too, do not speak of Bright's disease, unless there are certain characteristic cardio-vascular changes together with the nephritis. Nephritis of bacterial origin is a disease **sui generis** which may or may not lead to cardio-vascular changes, but in the majority of cases does not. I should not even call for instance a myocarditis, with other cardio-vascular changes, which is distinctively consecutive to a typhoid nephritis, a case of Bright's disease. It would be best of all if we discarded the term Bright's disease all together—it is so often misleading.

If I did not make myself clear in regard to the necessity of individualizing in each case, I want to do so now; I hope I made it clear that I do not treat every case in a routine manner, with heart stimulants and vaso-dilators; of course, "I make the punishment fit the crime" and insist that each case be studied as an individual and treated accordingly.

WHY DIGITAL EXPLORATION THROUGH THE INTERNAL INGUINAL RINGS SHOULD BE MADE IN CONJUNCTION WITH EVERY ALEXANDER OPERATION.

BY A. GOLDSPOHN, M. S. M. D., CHICAGO.

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Among the general rank of modern gynecologists who are properly guided in their own views and practice, by correct principles in pathology and by a due consideration of the anatomy and physiology of the female generative organs, the following proposition is quite generally accepted: that the round ligaments of the uterus are the only correct means to deal with in surgical procedures for the cure of retroversion and retroversio-flexion of the uterus, in women who retain a capacity for conception, because they *alone* undergo both *evolution* (or growth) and *involution,* with the uterus during gestation and after labor respectively, while all so-called "artificial ligaments" can only stretch during gestation but cannot

*Read at the 54th Annual Meeting, May 17, 19

shorten up afterward, and therefore become useless and often harmful in causing intestinal obstruction; that therefore the only proper question for discussion on this subject now is: *How to use the round ligaments.* This question becomes a very important issue in view of two unfortunate facts about the round ligaments:

(1) That they are not of even strength throughout, but taper very much from within outward, being at least six times stronger at their origin from the uterus than at the point where they enter into the internal inguinal rings.

(2) That by ordinary abdominal section and by vaginal celiotomy the thick median portions only of the round ligaments are accessible while the vulnerable outer or peripheral portions, being out of reach, cannot be strengthened or fortified against stretching again, no matter how much the thicker median portions are shortened.

Therefore, rational shortening of these ligaments with elimination of their distal weaker portions can only be done via their natural channels, the inguinal canals, from without.

Bi-inguinal shortening of these ligaments, therefore, stands upon a solid anatomical foundation, and is impelled by most important practical interests, provided, that equally important conditions or indications within the pelvis are also attended to. In order to this exploration at least, with a finger through the subperitoneal inguinal rings should be made in conjunction with every Alexander operation for the following reasons:

First. In many cases the uterus is, indeed, freely movable, but adhesions of one or both ovaries or abdominal ends of the tubes are present but remain undiscovered, unless the parts are explored by a finger passed through a slit in the detached peritoneum and internal inguinal ring. Adhesions about the ovaries and tubal ostia are far more frequent than adhesions about the uterus itself, because those structures are first affected in inflammatory process. Here infection is first implanted upon the peritoneum when it is transmitted by its most frequent channels,—the tubes— from the endometrium inward; and many indeed are the slighter attacks of peritonitis about the adnexae that are arrested before the peritoneal envelope of the uterus becomes involved. Furthermore, the uterus is a larger body and is so situated as to undergo greater excursions of movement physiologically, in response to the variable degrees of distension of the rectum and bladder and the play of intra-abdominal pressure; therefore it tends to liberate itself from adhesions more than the adnexae do.

For these reasons the tubes and ovaries are often entrammeled more or less with adhesions that are not detected because the uterus is freely movable and the appendages appear negative, i. e., they cannot be made to float enough to trace their outlines and to determine their size and consistence with a finger in the vagina in bimanual examination, but the general absence of marked local tenderness and other signs leads to the conclusion that the parts are fairly normal; while they are actually adherent in a descended position, having become so since the uterus was retroverted. If now the fundus uteri be raised and brought forward by shortening of the round ligaments, the adhesions to the adnexae will be drawn upon, and they will not only counteract the round ligaments but also cause discomfort after the operation.

Secondly. In order to enable the round ligaments to exercise their utility in holding a retroverted uterus forward permanently and not to permit a return of displacement after later childbirths, it is necessary to change their extremely lateral and circuitous route to a more direct one from the fundus forward to the internal inguinal rings and Pouparts ligaments. This is done more or less in all Alexander operations, but altogether too imperfectly in that type of the operation in which it is claimed that the peritoneum is not opened.

From observations upon this point during bi-inguinal shortening of the round ligaments in at least 125 cases of retroversion without adhesions to the uterus, i. e., readily reducible cases, I have found that

after the inguinal canals have been laid open and the round ligaments dissected up and drawn out as far as possible (even to a length of 4 to 5 inches) without opening the peritoneum, if now, at this point in the operation, an index finger be passed through a slit in the peritoneum and the inguinal rings, into the pelvic cavity and held against the fundus uteri while the supposedly well shortened ligament is drawn upon with the other hand, it will scarcely impart a forward movement to the uterus at all, in from ⅕ to ¼ of all individual ligaments so tested, in simple cases. This is because the round ligament pulls still from its entanglement in the broad ligament at a point approximately midway between the uterus and the pelvic wall. If now the round ligament be left in this rectangular course and shortened, it is clear that it will pull sideways more than forward upon the uterus; and it will not prevent a recurrence of retroversion, particularly in case of a retroversioflexion, or when the fundus is large and heavy, or when the sacro-uterine ligaments do not hold the cervix well back into the hollow of the sacrum. To relieve this condition and to avoid these dangers, it is necessary to liberate the round ligament better from the broad ligament, so that it may have the advantage of a more direct course from the fundus forward. In order to do this the parts must be drawn forward into the dilated inguinal ring, where the round ligament can readily be liberated from the peritoneal investment which is common to it and the broad ligament, chiefly by blunt dissection assisted occasionally by a slight clip with scissors. As stated, this becomes necessary in about ¼ of all these ligaments so shortened, if thorough work shall be done.

When an operator has learned to discover the complicating condition here spoken of, by exploring with a finger in the pelvis and has relieved it in simple cases in the manner stated, he also soon learns how readily he can go farther and sever adhesions to the uterus and appendages in worse cases, how he can draw the tube and ovary of each side in succession into the corresponding inguinal ring for reconstruction or removal, thus giving the much larger class of complicated but aseptic retroversions also, the superior benefit of a permanent cure of their displacement, one that stands the double test of subsequent labors in the most harmless and natural manner. All this can be done without cutting anything more in the abdominal wall, than is needed to shorten the ligaments properly, in the simplest cases, owing to the elasticity of the muscles that bound the subperitoneal rings.

For a description with illustrations of the technique of this bi-inguinal celiotomy for complicated but aseptic retroversions, I must refer to my article in Amer. Jour. Obstetrics, Vol. 41, No., 5, 1900. Suffice it to say, that there is no cutting of any tissue or structure that has a capacity to hold anything. Only the skin and areolar tissue down to the aponeurosis of the external abdominal oblique muscle are incised. The latter all important structure is split open bluntly from the lateral acute angle of the external inguinal ring upward and outward. The round ligament is picked up in the external inguinal ring and is traced along the inguinal canal, thus laid open, to the internal ring. The latter will always let an index finger pass through it very readily, and two fingers also after some stretching with fingers or forceps. But one finger introduced on both sides (one after the other wound is closed) is usually sufficient to liberate the internal organs from adhesions and to draw the tube and ovary of each side into the opening for inspection and for such surgical treatment as they may require. The stronger intrapelvic portion of the round ligament is broadly anchored against the posterior surface of Pouparts ligament on each side, during the closure of the wound in four layers of sutures, which are so placed as not to cut off the circulation from the round ligaments and to cover the region of the internal ring, and to solidly occlude the inguinal canal with liberal quantities of the internal oblique and transversalis muscles.

In over 200 of these cases, in the majority of which vaginal and cervix plastic operations were also done at the same time, and

among which 105 of the earlier successive cases have been subjected to a special review examination, after an interval varying from 16 to 23 months after operation, I have had only one death and one only recurrence of retroversion. Subsequent hernia has been most carefully looked and inquired for. It certainly does not exist in three-fourths of all my cases, in whom that feature is known to me, while in at least a dozen cases an impending or a fully developed inguinal hernia has been incidentally cured by the technique which is observed by me in the closure of every such wound. At least 14 cases have given birth to children normally, excepting a breach presentation in one of them, and in all of them, later examinations have shown the uterus in each case, to be in good normal anteversion.

DOCTORS AND CIVIL SERVICE.

It may be that the board appointed to examine the applicants for positions on the county hospital staff was a bad, a dreadfully bad, board. But this is not the question.

It may be that Mr. Foreman, the retiring chief executive of the county, was mischievously, maliciously, and malevolently determined to deprive his successor of the privilege of filling the positions on the county hospital staff by appointment. But this is not the question.

It may be that the examination contemplated was a mere pen and ink affair that could not adequately test an applicant's personal character, practical experience, and diplomatic power. But this is not the question.

The question is whether the doctors of the county hospital shall be chosen by the president of the county board through personal preference or by a board of physicians after professional scrutiny.

The president of the county board, when he is a man like Mr. Foreman or like Mr. Brundage, will try to do the right thing. But he is not a doctor. He has no technical acquaintance with the subjects in which the members of the county hospital staff should be proficient. He is a politician. He is assailed by innumerable recommendations from other politicians and from prominent and amiable citizens who want to affect his appointments. He is driven in the long run to a compromise between expediency and efficiency.

If, however, he appoints a board of reputable physicians to make the county hospital appointments for him, he is at once relieved of the duty for which, of all his duties, he is the least fitted. The appointment of physicians is then in professional and not in amateur hands.

The method by which the board of physicians shall test the qualifications of candidates is another matter. The merit system is not a perfected science. At present it consists altogether too much of pen and ink. The questions propounded to candidates for the position of assistant chief of police, for instance, are questions more likely to produce a good city statistician than a good police officer. But a change is impending. The theoretical, academical civil service examination is simply a stepping stone to better things. It was perhaps inevitable at first, because a new era always brings its raw, callow experiments. The board of physicians appointed to get good men for the county hospital should be permitted to adopt such methods of examination as will bring good men to the front. The word examination does not necessarily mean a mere performance with pen and ink at a desk. It can logically be extended to include a wide inquiry into an applicant's character, experience, and practical success. For instance, just as a suggestion, an examination for doctors on a basis of ten points might give six to experience and only four to a written quiz on the specialty, say neurology, in which the applicant was expected to serve the county hospital patients.

These things, however, are matters of detail and of development. The fundamental demand is that some attempt shall be made to choose doctors on merit through professional inquiry and not on influence through amateur appointment. The next county board should not underestimate the strength of this demand.—Chicago Tribune Editorial.

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THE BILL TO INCREASE THE EFFICIENCY OF THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY.

Since the beginning of our Government it appears that the medical services of the Army and Navy have been unsatisfactory. This is apparent not only to the men engaged in these services as a livelihood, but also to the many hundreds who have in the past 25 years had a more or less extended experience in the militia organizations of the several states. Various spasmodic and unsystematic attempts have been made in the past to remedy this state of affairs but always without success.

Recently the medical officers of the Army have enlisted the favorable endorsement of the able Former Secretary of War Root in behalf of a new bill which, as we see it, appears to be worthy of commendation.

In the first place, it provides for an increase of 130 members of the medical corps and more rapid and satisfactory advances in rank than have heretofore been customary.

In the second place, it does away with the degrading term of contract surgeon, an individual who now occupies the anomalous position of being in the army but not a part of it, and who has been getting better pay than the regular officer while he usually has given poorer service.

In the third place and most interesting at this time, is the proposition to create a reserve corps of medical officers. In order that this part of the bill may be thoroughly understood we give below the sections in full.

The wide significance of these sections may not have occurred to the Surgeon General and the medical profession. We see in them the opportunity to make a national degree valid in every state in the Union. What better recommendation can the young physician of the future have than to be able to append to his name the title, Member of the Reserve Corps of the United States Army? How rapidly the better class of medical graduates would take advantage of this opportunity to distinguish themselves from the poorly educated graduates can be easily imagined. We certainly hope that this bill may become a law and that its provisions may be expanded to give us the substance of a national examining board and a national degree.

Sec. 7. That for the purpose of securing a reserve corps of medical officers available for military service the President of the United States is authorized to issue commissions as first lieutenants therein to such graduates of reputable schools of medicine, citizens of the United States, as shall from time to time, upon examination to be prescribed by the Secretary of War, be found physically, mentally and morally qualified to hold such commissions, the persons so commissioned to constitute and be known as the medical reserve corps. The commissions so given shall confer upon the holders all the authority, rights and privileges of commissioned officers of like grade in the medical corps of the United States Army, except promotion, but only when called into active duty as hereinafter provided and during the period of such active duty. Officers of the medical reserve corps shall have rank in said corps according to date of their commissions therein and when employed on active duty as hereinafter provided shall rank next below all other officers of like grade in the United States Army: Provided, That contract surgeons now in the military service, who receive the favorable recommendation of the surgeon-general of the Army, shall be eligible for appointment in said reserve corps without further examination.

Sec. 8. That in emergencies the Secretary of War may order officers of the medical reserve corps to active duty in the service of the United States in such numbers as the public interests may require and may continue such officers so long as their services are necessary: Provided, That nothing in this act shall be construed as authorizing an officer of the medical reserve corps to be ordered upon active duty as herein provided who is unwilling to accept such service nor to prohibit an officer of the medical reserve corps not designated for active duty from serving with the militia, or with the volunteer troops of the United States, or in the service of the United States in any other capacity; but when so serving with the militia or with volunteer troops or when employed in the service of the United States in any other capacity, an officer of the medical reserve corps shall not be subject to call for duty under the terms of this section: And provided further, That the President is authorized to honorably discharge from the medical reserve corps any officer thereof whose services are no longer required: And provided further, That officers of the medical reserve corps who apply for appointment in the medical corps of the army may, upon the recommendation of the surgeon general, be placed on active duty by the Secretary of War and ordered to the army medical school for instruction and further examination to determine their fitness for commission in the medical corps.

Sec. 9. That officers of the medical reserve corps when called upon active duty in the service of the United States as provided in section eight of this act shall be subject to the laws, regulations and orders for the government of the regular army, and during the period of such service shall be entitled to the pay and allowances of first lieutenants of the medical corps with increase for length of service now allowed by law, said increase to be computed only for time of active duty: Provided, That no officer of the medical corps shall be entitled to pension except for physical disability incurred while in active duty and in line of duty.

BRONCHOSCOPY.

The interesting contribution by Prof. E. Fletcher Ingals of Chicago, which will be found on page 616 of this issue of the Journal will doubtless be read with much satisfaction by most of our readers as it will serve to call their attention to one of the latest triumphs of medical science, bronchoscopy.

Discoveries made during the excavations at Pompii have shown that specula for vaginoscopy and rectoscopy were in use before the Christian era. The extension of this principle to the urethra, eye, ear, nose and larynx were long delayed and only perfected in the 19th century by Helmholtz, 1851, Desormeaux, 1853, Turck, 1857, and others. The medical students of the best schools are now trained in the use of all of them and thousands of practitioners in all parts of the world successfully treat

diseases which were incurable before these discoveries were made.

Oesophagoscopy, Tracheoscopy and Bronchoscopy are the latest developments of seeing far into the human body, as Moyer expresses it, and the profession and the public owe a debt of gratitude to Kussmaul, Mikulicz, Hacker, Rosenheim, Killian and others for oesophagoscopy and to Prof. Gustav Killian of Freiburg, Germany who seems to have been the pioneer worker in tracheoscopy and bronchoscopy. His first article appeared in the Munich Medical Weekly in 1898. The new procedure was much advanced by a paper read by Killian before the British Medical Association, in August 1902. Up to the present time there have been approximately 36 operations with the bronchoscope, three of which have been performed by Dr. Ingals.

CLOSE OF VOLUME SIX.

The House of Delegates at the Bloomington meeting wisely provided that the Society year should correspond with the calendar year. With this issue of the Journal therefore we send out the index for volume six, covering the numbers from July to December 1904, seven issues. Owing to the great increase in the size of the Journal it may appear expedient in the near future to make six issues constitute a volume as is done by all the larger weekly and monthly publications both lay and medical.

NEW YORK PLAN OF MANAGING STATE INSTITUTIONS.

In the October issue of the Journal we called attention to the Iowa plan of managing the State Institutions and we are pleased to know that the agitation regarding this subject which the Journal is making is meeting with enthusiastic support from all classes of citizens. The State Conference of Public Charities recently held at Rockford endorsed the idea of placing all the insane now in county poor houses in State Institutions. The conference also recommended that the Epileptic Colony be provided for by the next legislature. This we hope will be done.

* * * * *

To provide accommodations for the epileptics it is not necessary to expend a great deal of money. It is the opinion of many who have given this matter consideration that expensive ground should not be bought but that the least expensive tract should be purchased and the patients put to work making brick and constructing buildings for their own accommodation. Neither is it necessary to provide for every epileptic in the State at once nor to make them all charges on the State. A large proportion of them will be found in families amply able and willing to pay all the expense and a little more for their keeping in a hospital under State control. We hope this matter will be taken up by the legislative committee of the State Society and every effort be exerted to provide an institution which will be a credit to the State and a refuge for this unfortunate class.

* * * * *

In connection with the subject of State Institutions we will call attention to the manner of managing State Institutions in New York State. Unfortunately we have not exact data at hand but from an item in the Medical Record of Nov. 26, we judge that civil service of the best character prevails in the Empire State. On Dec. 3, 1904, competitive examinations will be held in various cities in that State for several of the medical positions in the State Institutions. For the position of resident physician candidates must be residents of the State and have had at least one year's experience on the staff of a public general hospital. This post pays $1,500 and maintenance. The medical service of the State comprises sixteen State hospitals, with about 160 salaried medical positions and about thirty positions in the Pathological Institute, the Craig Colony for Epileptics and other institutions. All higher medical positions from assistant physicians at $1,200 to $1,500 and maintenance, to superintendents at $3,500 to $4,500 and maintenance, are filled by promotion through regular grades from that of sixth grade or junior physician. May we not hope for some such law in Illinois?

Correspondence.

HOW ABOUT THE ADVERTISERS?

————, Ill., Nov. 10, 1904.

Geo. N. Kreider, Editor,
Springfield, Ill.

Dear Doctor: I wish to know to what extent the County and State Societies should tolerate advertising or displaying of professional cards by its members. We have a new doctor in our County who wishes to join our Society, but some objection has been raised against him as he has used his picture in the newspapers and on his cards and he puts his professional card with every advertising scheme that comes along. As I understand it, about all the advertising a doctor is allowed to do is his plain professional card in his home paper (unless he is a specialist).

Please inform me fully on this subject and oblige. Fraternally yours,

W. X. Y.

ILLEGAL PRACTITIONERS NUMEROUS.

St. Elmo, Ill., Nov. 17, 1904.

Geo. N. Kreider, M. D.,
Springfield, Ill.

Dear Doctor and Editor: There is a matter of importance that should have prompt consideration by the State Society. That is the illegal practice of medicine throughout the state. I would say there are in this part of the state at least one hundred persons in each county who are violating the Medical Practice law. Quite a number of druggists are still guilty of treating any kind of case that presents itself to them. There is not a neighborhood that has not two or three unlicensed midwives that take charge of the obstetrical cases until they get a bad case, then they are compelled to send for the doctor. There are some old women who prescribe freely and in fact run a pretty stiff opposition to the drug stores with their syrups, roots and herbs.

They think they know more than any doctor but do not really know the first principles of medicine or anatomy.

This meddlesome tampering with so important a subject on which they are not posted is the cause of much suffering and many deaths and should not be tolerated by the State. Disease is much better treated in its incipiency, but under the present circumstances the doctor is not often called in time to stop the ravages of disease. Often have I seen these dear old sisters treat appendicitis for belly ache, diphtheria for quinsy, osteomyelitis for rheumatism and obstruction of the bowels for colic or sour stomach.

If, instead of making angels out of these innocent victims, they would get a smell of brimstone themselves, it would not be so bad. The people as a whole are ignorant on such matters and are not entirely to blame for this. We have the laws to prevent it if they were enforced. The state furnishes game wardens to watch and prevent the killing of wild animals, but no such guardians are furnished for the human race. Don't talk about race suicide until this wholesale homicide is checked. Rigidly enforce the laws we already have and in one year the condition will be improved at least seventy-five per cent. Talking and writing on the subject will not stop it. We must take action promptly to have these law breakers prosecuted.

Yours fraternally,

E. W. Brooks

INTEREST IN TUBERCULOSIS CRUSADE IS SHOWN.

Ottawa, Ill., Nov. 14, 1904.

Dr. George N. Kreider,
Springfield, Ill.

My Dear Doctor: As an indication of the interest taken in our crusade I enclose a letter from a member of the Legislature which explains itself. This letter comes entirely unsolicited and is an index of the great interest taken in our work.

I am pleased to inform you that our accommodations at the Tent Colony are all taken and that the work progresses satisfactorily. Yours fraternally,

J. W. Pettit.

Belvidere, Ill., Oct. 24, 1904.

Dr. J. W. Pettit,
Ottawa, Ill.

Dear Sir: Some days ago I read in a Rockford paper that the State Board of Health had issued a pamphlet relative to the cause and prevention of consumption. I immediately wrote to the Board for some of them as I wished to distribute them in our public schools. I have received several copies

of the pamphlet and have read them with great interest. I see by it that you are conducting a colony for the treatment of consumption and are meeting with good results.

I expect to be in the Legislature next winter and hope to see some legislation enacted for the establishment of a State Hospital for the treatment of tuberculosis. I have often wondered why so little attention has been given to the treatment and prevention of this dread disease when so many of our people all over the state and country are dying every year with it. There seems to be a general awakening to the necessity of something being done. I hope to be able to get down and see you and talk the matter over with you before the Legislature meets next winter.

Very truly yours,

Frank R. Caney.

IMPORTANT TO MEMBERS OF THE STATE SOCIETY.

Ottawa, Ill., Nov. 17, 1904.

To the Editor:

Persuant to the requirements of the constitution of the Illinois State Medical Society, and at great expense to the Society, there has been sent to the secretaries of every component society a register containing an index card of every resident physician. Many secretaries have completed the information required on the cards, and sent them in, but some are meeting with slight opposition, and more especially with indifference. Others have asked the why and wherefor of the numerous questions asked, and desire information thereon. For the benefit of those who do not know, I wish to say that the complete card is for the use of the American Medical Association. It is to the interest of every physician to have his record placed as prominently in the directory of the American Medical Association as possible, and therefore he should in detail answer every question. Of course, a copy of the same is also retained for the use of the State Society, for the purpose of knowing the changes that may occur. There need be no fear that the information obtained will be used to the detriment of the one furnishing it.

E. W. Weis, Secretary.

News Items.

Dr. W. Hope Davis and family of Springfield have departed for San Antonio, Texas, where the doctor has considerable landed interests and where he will probably permanently reside.

Dr. Frank Billings has addressed a letter to the lay press of Chicago, soliciting their assistance in securing the modification of the ordinance which practically prohibits the construction of a hospital for contagious diseases in that city.

Dr. E. E. Faulkner, of Chicago, has relocated in Des Moines, Ia.

Dr. Fred M. Doyle, of Chicago, has been in Neola, Ia., for several months in charge of the practice of his brother, Dr. J. M. Doyle.

Dr. B. F. Replogle, a homeopathic physician formerly located in Champaign and Chicago, has located in Ft. Collins, Colo.

Dr. A. Eugene Austin, of New York City, has located in Chicago.

Dr. W. S. Holland has removed from Elmwood, Ill., to 2200 Adams st., Chicago.

Dr. J. H. Hern, of Chicago, has located in West Duluth, Minn.

Dr. R. W. Brown, of Fish Hook, has gone to Springfield, Ohio, where he will practice his profession.

Dr. J. E. Melton has located in Fish Hook.

Dr. W. E. Purviance, Major and Surgeon, U. S. A., stationed at Pullman Bldg., Chicago, has been transferred to Manila, Philippine Islands.

Dr. T. H. Shastid has removed from Charleston to Harrisburg.

Dr. Walter H. Allen, of Waverley and his brother, Dr. Paul Allyn of Modesto, have formed a partnership to practice in Waverley.

Dr. Frances Turley, of Springfield, has removed to Chicago.

Dr. Clara Edmonds, of Chicago, has commenced practice in Springfield.

Dr. William Cother, of 63d Street and Ashland Ave., was recently assaulted by his wife who threw carbolic acid in his face and afterwards took some of the poison herself.

Dr. and Mrs. Thos. J. Jackson, of Chicago have returned from Europe.

Dr. L. C. Grosvenor, of 185 Lincoln Ave., has returned from New England where he has a summer home.

Dr. O. J. Baldwin has sold his practice in Farmersville and purchased another in Divernon.

Dr. R. S. Piper, of Bloomington, has devised a presbyopic test card for which he claims the following advantages: 1st. It enables you to test the eyes for reading at any distance from 8 to 24 inches accurately. 2d. There is only one measurement to be made, then you can give the glass at once. 3d. It does away with trying on glasses until you find one that suits the patient as the chart indicates the glass at once. 4th. You may fit five people by this method in the time it ordinarily takes to fit one. 5th. Take a given case with an accommodation of 3 dioptres patient can see through 15 different lenses vary

in from plus .12 to 3 dioptres. The chart always shows you the best glass for the desired reading point. 6th. It makes no difference whether the eye be Hypermetropic or Myopic, as the test allow for it. The price is $2.00 and the card can be obtained by addressing Dr. Piper.

Dr. M. D. Bates addressed the members of the training school and alumnae of the Mary Thompson hospital of Chicago recently on the **Cause and Prevention of Tuberculosis.** "The most important element in dealing with tuberculosis is preventing the extension of the disease," he said. "The prevention of one case, which in itself produces another case, would in time eradicate the disease. The disease being a germ disease is distributed mostly through dust in the streets, street cars and dwellings. The number of deaths in the world by the disease annually reaches 1,000,000, which is equal to 2,000 a day, or two every minute.

Why are not quacks prosecuted in Chicago as they are in New York? In discussing quacks before the Society of Medical Jurisprudence in New York city the other evening Champe S. Rogers, who has for five years been the society's counsel, said that in that time 500 convictions of medical charlatans have been secured, $90,000 in fines been collected and an aggregate of twenty years' imprisonment been imposed upon offenders. One peculiar item in the equipment of such quacks in New York city, it appears, is the taking of the names of dead physicians of repute and going into practice in some different part of the city, on the chance of being undiscovered; also, said Mr. Rogers, certificates of physicians who have died are frequently sold by auction and often prove the most valuable assets his heirs find. Quacks make their money out of the poorest people and he mentioned one such who had made $200,000 in a year.

Dr. Gailey and family, of Ashland, have moved into a new residence.

"Fainting Bertha" alias Bertha Liebeke, of Chicago, was sent recently to the Kankakee asylum for the insane. She was arrested on a shoplifting charge. It is said she is an adept at pretending to faint whenever in trouble or in a crowd where it is possible to appropriate small articles.

Dr. J. T. Woodward, of Elkhart, has sold his practice to Dr. Asa H. James of Solon Springs, Wis. Dr. Woodward will take a post graduate course at the Chicago Policlinic.

Dr. L. F. Curtis, of Elkhart, has removed to Utica, S. Dak.

Dr. A. L. Derdiger, of Chicago, has removed to the Columbus Memorial Building, 103 State street, where he will devote his practice exclusively to disease of the eye, ear, nose and throat.

Dr. Milton Jay, of Chicago, has been re-elected president of the Association of Surgeons of the Chicago & Eastern Illinois Railway.

Dr. T. C. Conklin, who practiced medicine for about twenty years in the town of Farmington, recently died and his death revealed the fact that he had led a duel existence, having a wife in Farmington and another in the city of Peoria. By both wives Conklin had children and maintained them in clothing and education. He died November 8.

Dr. Frank B. Fisher, of Springfield, died June 22, 1902, leaving insurance the payment of which was contested by a fraternal company upon the ground that Dr. Fisher had made a false statement in his application. The Supreme Court has just rendered a decision giving the widow the full amount of insurance.

Dr. James O. Horowitz has established in the Colorado Memorial Building, Chicago, a Medical Institute of Bibliography and Translations where bibliographies, abstracts, statistics, outlines and reviews of general subjects or special topics will be prepared for the profession. We recommend this enterprise to the favorable consideration of our members.

Dr. Philip Deffenbacher, of Havana, was granted $1,280 by the Circuit Court for attending small-pox patients. The Supreme Court has reversed this and remanded the cause for another hearing.

FARMERS COMPLAIN.

Man at Rockford Arrested for Alleged Medical Fraud.

Rockford, Ill., November 19.—A man giving the name of H. W. Baskett and representing himself as agent of the Illinois State Medical and Surgical Institute of Chicago, was arrested this afternoon on complaint of farmers living near here that they had been inveigled into signing notes in return for an agreement to treat and supply medicine to rheumatic sufferers for six months. Baskett gave up the notes, which aggregated $955, for his release. The agreement bore the signature of C. N. Hopkins, as treasurer of the institute. Baskett also had notes made at other places, which he retained.

Dr. R. F. Bennett, of Litchfield, formerly a member of the State Board of Health and later Superintendent of the Southern Hospital for the Insane is one of the most prominent politicians of Central Illinois. In the early summer one of the factions met to nominate a candidate for Congress. No one would have it. Candidates from every county in the district had one after another scorned the proffer. Finally some one in the hall mentioned Rives. The young man blushed and attempted to rise to follow the example of all the others but Dr. Bennett, an old politician, was too quick for Zeno and jumping to his feet proceeded to put a stop to the declination of candidates. As Rives tugged at the doctor's coat tail and interrupted him the speaker's ire was aroused and turning to the young man he delivered himself of the following epoch making remarks:

"Sit still, you consarned idiot! you don't need any money to make the campaign; you do not have to make any campaign. Sit down there and behave yourself."

Rives did not spend a cent, that is, not very many of them. It is said that he did spend a quarter, but Zeno has not admitted it.

When Dr. Bennett told him he did not have to make a campaign, neither the doctor not Mr.

Rives ever thought that that was literally true and that it was also necessary that he make none. Had Rives made a vigorous campaign the chances are the democrats would have been sufficiently aroused to save Caldwell at least.

If Dr. Bennett is interested in pushing any medical legislation through the next Congress we fancy he can be sure of one vote.

New Incorporations.

The Secretary of State at Springfield has granted licenses to the following corporations:

Hinsdale Sanitarium and Benevolent association, Hinsdale; not for profit; operate a hospital and sanitarium; Charles B. Kimbell, David Paulson, E. B. Vandorn.

Dr. La Force Chemical Company, Chicago; capital, $25,000; manufacturing medicines; incorporators, D. D. Robinson, E. C. Randa, and Emma Hulett.

Cooperative Medical Service association, Chicago; $10,000; furnishing physicians, nurses and undertakers; Frank H. Hendrickson, A. A. Blackman, Marion Alber.

O. N. Bull Remedy company, Freeport; capital, $10,000; manufacturing proprietary articles; incorporators, Oscar N. Bull, C. L. Hermann, Mary E. Bull.

Sanatorium Training School for Nurses, Freeport; educational; incorporators, J. T. White, Winnie Taylor, David Littlejohn.

Marriages and Deaths.

MARRIAGES.

Dr. E. H. L. Barry, Jerseyville to Mrs. Anna Hayes of Wilkesbarre, Pa., at Alton, Ill., Nov. 22.

Dr. F. H. Brandt, Chicago, to Miss Pauline Woltman of Rock Island, Oct. 10.

Dr. J. H. Bryant, Galesburg, to Miss Lillian H. Warfield, Princeton, Oct. 26.

Dr. W. F. Bushnell, Freeport, to Miss Sadie Agatha Hummer of Iowa City, Ia., Oct. 6.

Dr. E. H. Butterfield, Ottawa, to Miss Letitia Rothwell, in Chicago, Nov. 3.

Dr. Joseph Gilbert Bemis and Miss Sarah Cornelia De Yoe, both of Chicago, Oct. 26, 1904.

Dr. J. T. Edward, to Miss Alice Mary Reid, both of Chicago, Oct. 25.

Dr. Matt Hill and Miss Pearl Wallace, both of Taylorville, in St. Louis, November 10.

Dr. Otto W. Konzelman, to Marie Pedersen, both of Chicago, Oct. 19.

Dr. James A. Mannon, Sherrard, to Miss Frances Edgar, Cable, Oct. 19.

Dr. Oscar F. Maxon and Miss Mary Watts, both of Springfield, November 2, 1904.

Dr. Walter Miles, to Miss Tina Collins, both of Viola, Nov. 15.

Dr. Sumner M. Miller, of Peoria, Ill., and Miss Sarah C. French, of Evansville, Ind., were married in Evansville, Ind., Wednesday, Nov. 16th. After a trip to Florida they will be at home in Peoria, Ill.

Dr. J. H. Stealy, Freeport to Miss Zara H. Anderson, at Chicago, Oct. 5.

DEATHS.

Dr. Franklin Brooks was suffocated by an escape of illuminating gas at his home in Chicago, Nov. 2, aged 80.

Dr. Daniel F. Burton, Galesburg, Nov. 7, aged about 50. He was taken suddenly sick after eating an over amount of pop corn which caused obstruction of the bowel.

Dr. J. W. Hensley, Peoria, former Vice President of the Illinois State Medical Society died Nov. 14, at his home in that city. Dr. Hensley had been suffering from the effects of a fall received several months ago but it was not until ten days previous to his death that he felt severe results from the accident.

Dr. Henry Munson Lyman, Chicago, died at his residence, 404 Lee st., Evanston, Nov. 21.

After serving as assistant surgeon in the United States hospitals in Nashville, Tenn., during the Civil war, Dr. Lyman settled in Chicago. He was born on the island of Hawaii, Nov. 26, 1835. His parents were Americans. He was graduated from Williams college in 1858, and attended the Harvard Medical college. Then followed a course at the College of Physicians and Surgeons at New York.

Dr. Lyman had been an instructor in Rush Medical college, Chicago, and on the staff of the Cook county hospital. Later he was one of the attending physicians to the Presbyterian hospital and consulting physician to the hospital for women and children and St. Joseph's hospital. "Insomnia and the Disorders of Sleep" is probably his best known work.

Dr. Helen Leeker Lynch, died at her home in Highland Park, Ill., Oct. 22.

Dr. D. J. Stowe died at his home in Belvidere, Ill., and was buried Oct. 21, aged 73.

Dr. Frederick A. Treacy, College of Physicians and Surgeons, Chicago, 1901, formerly of Springfield, Ill., of Lewistown, Mont., died at Helena, Mont., from tuberculosis, October 21, aged 30.

County and District Societies.

WESTERN ILLINOIS DISTRICT MEDICAL SOCIETY.

Regular meetings are held on the first Friday in May and the last Friday in October, at such places in the district as may be selected by the Board of Censors.
Membership 60.

Officers.

President ..... H. A. Chapin, White Hall
First Vice Pres ..... A. K. Van Horn, Jerseyville
Second Vice Pres ..... H. W. Smith, Roodhouse
Secretary-Treasurer .. H.W. Chapman. White Hall
Censors: T. J. Pitner, Jacksonville; Waldo Fisher, Alton; F. A. Clement, Greenfield.

The Western Illinois District Medical Society met in Quincy on Friday, October 28th, in a hall corner 8th and Hampshire streets. The meeting was called to order by the President, Dr. H. A. Chapin, at 1:45 p. m. Those present were Drs. H. A. Chapin, Carl E. Black, F. P. Norbury, W. T. Knox and H. W. Chapman. There were also present and admitted to membership at this meeting: Drs. W. E. Gilliland, Coatsburg; L. N. Henry, Ripley; J. G. Ash, Herman; A. D. Bates, Camp Point, Jos Fletcher, Meridon: J. L. Harvey, Griggsville, W. W. Williams, Jos. Robbins, E. B. Montgomery, J. W. Shango, R. J. Christie, Jr., C. W. Pfeiffer, Sarah Vasen, L. H. A. Nickerson, John H. Rice, Wm. S. Knapheid, L. B. Ashton, Geo. E. Rosenthal and Thos. B. Knox, all of Quincy.

There were present as visitors, Drs. H. O. Collins and M. Reiffert of Paloma, J. W. Rook, Hancock County; M. M. Nickerson, Denver, Colo.; C. E. Erichson, Margaret Anderson, J. G. Williams, J. A. Koch, J. W. Burch and F. E. Tull, Quincy.

On motion of Dr. Black, it was decided that in conformity with the desires of the State Society we should have a District Society for the sixth Councillor District, and that The Western Illinois District Medical Society should be that society.

The regular business of the society was attended to including such proposed changes in the Constitution and By-Laws as were necessary.

The following very interesting papers were then read and discussed:

1. **Progress in Sero-Therapy, with Report of a Case of Tetanus,** E. B. Montgomery, M. D., Quincy.

2. **The Use of the McGraw Ligature for Gastro-enterostomy, Secondary to the Murphy Button. Operation with Description of Technic,** Robert J. Christie, Jr., M. D., Quincy.

3. **Auto-Intoxication,** Chas. W. Pfeiffer, M. D., Quincy.

4. **Rest in the Treatment of Disease, F. P.** Norbury, M. D., Jacksonville.

Dr. Black then set forth in a short address the objects and desires of the State Society in distributing the state. Censors reported Jacksonville as place of next meeting to be held on the first Friday in May next, with Drs. G. F. Lydston, Chicago; Geo, Bley, Beardstown; Wm. Parker, Mt. Sterling; L. J. Harvey, Griggsville; W. T. Knox, Manchester; Wm. C. Day, Winchester; E. F. Baker, Jacksonville; Geo. E. Rosenthal, L. H. A. Nickerson, Quincy and H. R. Gledhill, Jerseyville, as essayists, after which the society adjourned.

EFFINGHAM COUNTY MEDICAL SOCIETY.

Regular meetings held on the 2d Tuesday of each month in Commercial Club rooms at Effingham. Membership —

Officers.

President, Dr. J. B. Walker.....Effingham
1st Vice-President, Dr. J. N. Matthews.....Mason
2d Vice-President, Dr. S. Clark.....Effingham
Secretary, Dr. W. L. Goodell.....Effingham
Treasurer, Dr. F. W. Goodell.....Effingham

At the meeting of the Effingham County Medical Society, held Nov. 15, 1904, the following paper was read:

THE HODGEN SPLINT.

J. N. Phifer, M. D., Shumway, Ill: Gentlemen—The case we present to you today demonstrates the special usefulness of the Hodgen Splint in treating fractures of the lower extremities. This young man was thrown from a horse on Sunday, June 19, 1904. He was about one-half mile from home and alone. His cries brought him assistance, but it was near three-quarters of an hour before he was laid upon a bed at home. Dr. Haumesser and I were summoned to attend him. We found him lying upon his back and both limbs bent at an obtuse angle, to the right, at the points of fracture, and blood flowing from a wound on anterior surface of left thigh at point of cicatrix which you see here.

We diagnosed fractures of femora in upper third. We anaesthetized the patient, washed the wound site in bichloride of alcohol, applied boric acid and sterile gauze, after which we dressed the limbs in Liston's long splints, as a temporary support. On about the fourth day we changed to the home-made Hodgen splints, which I now show you. He made a good recovery but was slow to get upon his feet. From the fact that both limbs were fractured we feared to trust him even upon crutches, as a slip, or stumble, might produce a refracture. After removing the Hodgen splints we encased the limbs in plaster splints, parts of which you see here. He has no deformity, no shortening, and only a slight lameness, which is rapidly passing away; in fact, an ideal recovery, surgically and anatomically.

I believe that no other splints would have enabled him to pass the necessary time of confinement so comfortably. It was easy at all

times to keep his person clean, to change his bed, and even allow changes in position, without endangering the apposition.

This splint was devised by the late Prof. John T. Hodgen, of St. Louis, and he advocated its use in all fractures of the femora. Sound surgical reasons urge us to place any case of fracture above the lower third of the femora upon a double inclined plane, as the upper fragment invariably tends to tip upward and outward and override the lower. This indication is met most perfectly by the Hodgen splint and in the rare cases, such as the one we now present you, it is especially useful. By what other method could we have treated this patient, with both limbs being fractured in upper third of femur, one being a compound fracture, so well and with so little disturbance of patient and with such perfect access to the wound?

We obtain extension in using this splint, by the weight of the leg from the knee down, as our pulley is attached to the ceiling at a point more or less beyond the knee, according to degree of extension required. Should this extension force be not sufficient, or the patient be inclined to slip down in the bed, we elevate the foot of the bed from two to four inches.

We obtain counter extension with the Hodgen splint by the weight of the patient's body, and we can increase this force at our option by elevating the foot of the bed, thus at the same time increasing extension and counter-extension. You will observe that with this splint we obtain extension in the line of the femora, not in the line of the body, which would tend to angulate the site of fracture. This extension by weight of the leg below the knee tires out the heavy thigh muscles, brings them in line, and they act as co-aptation splints alongside the bones, thereby aiding in placing and retaining the bones in apposition.

Points of merit are briefly as follows:

First—Extension and counter-extension at all times may be regulated as required.

Second—Perfect access to the limb to inspect condition or treat any wound present.

Third—No bony prominences suffer from pressure and therefore no fear of pressure necrosis.

Fourth—Patient may shift his position in the bed even with both limbs broken and yet not endanger the result.

Fifth—Extension and counter-extension in the line of bone and degree always within option of the surgeon.

The splints, as you see, are home-made, and yet are as good and comfortable as though from the instrument house.

The Hodgen splint is just as useful in fracture below the knee as above, and I know of no appliance which gives us as easy and perfect access in cases of compound fracture as this.

By taking down the strips of bandage at site of wound we can dress it without disturbing the position of the fractured bones in the least, and have at all times ready access to a tibia where we fear that necrosis of tissue is imminent.

In case of fracture below the knee we should suspend the splint from a point above the knee and attach weight and pulley to cross bar of splint in order to get extension and counter-extension. If necessary, co-aptation splints may be placed around the limb for a few days to maintain apposition.

In case of fracture of the patella the limb should be suspended in a straight Hodgen splint, and broad adhesive strips attached to anterior surface of the thigh and the lower free ends of these strips connected with a cord passing over a pulley to a weight. This would overcome muscular spasm in anterior thigh muscles and tend to prevent separation of the fragments. I consider this the ideal dressing for this injury, whether we suture the fragments or not.

Believing that this splint is not as well known as it merits, and that it is the best splint for the patient as well as the surgeon, since the surgeon may at all times know the progress of the case, correct any deviations or bad positions, we respectfully urge its more extended use, as it affords us a confidence in the well-being of our patient which no other appliance can offer.

SANGAMON COUNTY MEDICAL SOCIETY.

Regular meetings are held at the Lincoln Memorial Library in Springfield the second Monday of each month at 8 p. m. Membership 75.

Officers.

President ..... W. O. Langdon, Springfield
Vice President ..... R. D. Berry, Springfield
Secretary-Treasurer ..... C. R. Spicer, Springfield
Directors, S. R. Hopkins, E. E. Hagler, A. O. Taylor

The Sangamon County Medical Society held its fifth annual banquet and election of officers Monday evening, November 14th, at the St. Nicholas Hotel, Springfield. It was one of the most successful sessions held by the society since its organization. A short business meeting and election of officers preceded the banquet. The minutes of the last meeting were read and approved. Dr. W. O. Langdon was elected President for the ensuing year; Dr. R. D. Berry, Vice President; Dr. C. R. Spicer, Secretary-Treasurer; Drs. S. R. Hopkins, E. E. Hagler and A. O. Taylor were elected as the Board of Directors. Drs. H. L. Metcalf of Springfield and O. A. McIntosh of Pleasant Plains were elected to membership. The application of Dr. J. A. Prince was read and referred to the Board of Directors. Bills of $8.35 were read and ordered paid. A vote of thanks was extended to the retiring officers. The Secretary was voted the usual fee for his services during the year. The business of the evening being finished, the members of the Society and their guests, sixty-six in all retired to the banquet hall. After the feast Prof. Bayard Holmes of Chicago read a paper on **Infection of the Mucous Membranes Lining Various Cavities.** The paper of Dr. Holmes was a masterly production and was greatly enjoyed by the assembly. Prof. Harold N. Moyer, of Chicago, then addressed

the society, dealing with various topics including the "Graft" exposure recently undertaken in Chicago which has been so widely discussed in the daily press. Dr. Moyer thinks that the publicity is the best method of dealing with graft. Dr. Moyer also expressed the opinion that the headquarters of the Illinois State Medical Society should be in the capital of the state and that the annual meetings should be held and the Journal published there. Dr. C. E. Black of Jacksonville was called on and stated that an effort was being made to have the offices of Secretary, Treasurer, Business Manager and Editor combined in one man, a resident of Chicago, and the Journal published there. This was he said a serious proposition and should be given careful consideration and only the best interests of the whole state should be consulted. It was the unanimous opinion of all present that a serious mistake would be made if the Journal were to be removed from Springfield.

The other visitors present were: Drs. E. W. Weis, of Ottawa; E. J. Brown, W. C. Bowers, J. C. Fisher and W. C. Woods of Decatur; L. L. Leeds, of Lincoln; R. A. Noble, of Bloomington; O. P. Will and C. U. Collins of Peoria; W. R. Newcomb of Champaign; S. J. Conner, of Pana; J. Palmer Mathews, of Carlinville; F. E. North and D. F. Morton, of Taylorville; W. A. Mudd, of Athens; T. J. Whitten, of Nokomis; G. R. Bradley, of Modesto; Drs. Lindsay, Wakefield and Grazier, of Springfield. The members present were Drs. O. B. Babcock, E. P. Bartlett, A. W. Barker, Helen Babb, R. D. Berry, Springfield; A. L. Brittin, Athens; E. H. Brittin, Chatham; W. A. Brittin, Auburn; M. M. Bradley, Waverly; Geo. Clements, C. P. Colby, J. N. Dixon, B. B. Griffith, A. L. Hagler, E. E. Hagler, S. R. Hopkins, J. W. Kelly, Geo. N. Kreider, W. O. Langdon, C. H. McElfresh, Springfield; J. C. McMillin, Berlin; S. E. Munson, C. S. Nelson, Fred S. O'Hara, A. E. Prince, J. A. Prince, L. Estelle Paullin, Springfield; B. F. Redshaw, Durran; J. C. O'Conor, Buffalo; Walter Ryan, C. R. Spicer, Geo. F. Stericker, A. D. Taylor, S. H. Taylor, L. C. Taylor, J. L. Taylor, P. L. Taylor, C. H. Walters, W. A. Young, H. H. Tuttle, C. M. Bowcock, T. W. Metz, T. L. Perkins, Springfield; Gordon W. Rice, Cantrall, O. H. Deichmann, Maurice Altman, H. L. Metcalf and C. A. Walsh, of Springfield.

STEPHENSON COUNTY MEDICAL SOCIETY.

Regular meetings are held at Freeport quarterly. Membership 30.

Officers.

President ..... Dr. W. J. Rideout, Freeport
Vice President ..... Dr. J. N. Daly, Orangeville
Secretary ..... Dr. K. F. Snyder, Freeport
Treasurer ..... Dr. M. M. Baumgarten, Freeport
Board of Censors: Dr. Hillebrand, Dr. B. Erp. Brockhausen, Dr. J. A. Poling.

The second quarterly meeting of the Stephenson County Medical Society was held at Freeport, Ill., Thursday afternoon and evening, President Wm. J. Rideout being in the chair.

The afternoon meeting was devoted to the reading of technical papers, being a **Symposium on Tuberculosis,** the program being as follows: **Bacteriology and Pathology on Tuberculosis,** by Dr. F. G. Voight. A very interesting historical sketch was given of the bacteriology and pathology of this disease. Though long believed to be parasitic in origin, it was not until 1882 that the bacteriology of tuberculosis was discovered.

The history of our knowledge of the disease may be divided into five periods, beginning with Hippocrates, who in 400 B. C. classed all suppurative diseases as phthisis and believed empyema to be identical with phthisis. Aretaeus held that phthisis and empyema were not the same, and that phthisis was an ulceration of the lungs. His treatment was mainly hygienic and dietetic.

The second period begins in 1700 A. D., when Mangetus, Bonnet and Morton first disclosed the true pathology of the disease and noted the miliary form.

In the third period Bayle and Laennec became very prominent. Laennec introducing auscultation and pectoriloquy and believing that pectoriloquy to be a pathognomonic sign.

In the fourth period Villemins announced the contagiousness of the disease, and finally the fifth period crowned by the discovery of the bacillus by Koch.

A description of the germ then followed and the identity of bovine and human tuberculosis reiterated.

The method of contagion and spread was then thoroughly entered into and valuable information given as to the different atria of the body to tubercular infection.

The gross and miscropic pathology was described from the first lesions to the terminal stages and the method of fibrous encapsulation well illustrated. The encapsulated, the fibroid phthisical and the retrograde metamorphosis were described as three possible pathological terminations of the disease.

Diagnosis of Tuberculosis.

M. Milton Baumgartner: The forms of human tuberculosis are as numerous and varied as the parts of the human body, but the advanced disease always presents a recognizable sameness. But the early diagnosis, the most valuable, is the most difficult. The tubercle bacillus may be found in the respiratory tracts of the healthy; therefore, an absolute early diagnosis is perplexing.

In the Boston City Hospital where tubercular patients are presumed to be excluded autopsy shows old or recent evidences of tuberculosis in one-third of the cases. Naegeli computes that every person over forty years of age has had or has tuberculosis.

The detection of tuberculosis as early as possible has been the earnest endeavor of the profession ever since the disease has been recognized. The first signs of infection by the B. tuberculosis are similar to those of many other infections. The patient begins to eat lightly, becomes thin and easy fatigued. May now develop a slight cough and chilly sensations. These early symptoms associated with a loss of weight are very suspicious. We should at once get a record of temperature for several days.

The thermometer is the most reliable means of detecting incipient tuberculosis. Haemoptysis is frequently the first serious symptom of tubercular infection. Pleurisy is very common and practically pathognomonic. The early physical signs are as a rule slight and ill-defined. The usual positive diagnosis rests with the microscope. When the germs are few they may easily be missed and a negative result obtained. A good method is this: Collect the sputa for several days. If scanty, a warm wet pack in the form of a poultice at night and a cold wet towel rub in the morning will usually make it more profuse. Put the specimen in a large bottle, add a little water and shot and shake vigorously until the mass be broken up. This is then to be centrifuged and re-centrifuged. Tuberculin is one of the most valuable methods we have, and if negative is most important.

The Medical Treatment of Tuberculosis.

Wm. F. Karcher: Statistics were given showing the vast importance on this subject, and the common opinion that tuberculosis is an incurable disease was refuted. The treatment is to be directed first, toward the escape of germs away from those already infected. Second, the prevention of their entrance into bodies of healthy individuals. Third, the radical treatment of those already suffering with the disease.

Hereditary consumption was denied.

As to the actual treatment of those affected: In this disease the patient is to be treated. Nothing will otherwise affect the disease. The patient should at once be told his trouble to gain his co-operation. He should give up his life to the struggle until well. Fresh air is of paramount importance. Plenty of sunlight was insisted upon. Judicious over-feeding to be employed where the digestive organs will tolerate it. As to drugs many may be used and some are of great value. Creosote is very valuable and its compounds or modifications. As to deporting patients, it is strongly advised against, owing to the danger of too much exercise or his falling into the hands of unscrupulous men.

Surgical Treatment of Tuberculosis.

J. H. Stealy: Surgical tuberculosis is to be divided into three classes: First, those cases requiring total extirpation. Second, those cases requiring a minimum of surgical work to open up the affected fields to anti-tubercular remedies, or to the stimulation of body efforts to neutralize the infection. Third, those cases requiring only the assistance of immobilization to throw off the disease. The tendency of today is toward the second and third line of treatment to the exclusion of the first.

Surgery is thus becoming rather the adjuvant of medicine. The possibility of the future extirpation of tuberculized lung tissue was discussed. The early recognition and treatment of these cases was emphasized and the atrium of infection pointed out. The importance of absolutely excluding tuberculosis in diagnosing joint affections was pointed out. The consistent removal of the lymphatic ring from the throat and nasopharynx was shown. In summary—First, the early recognition of cases. Second, the importance of early attention to tonsils and adenoids. Third, mild measures, where compatible with cure, are to be used. Fourth, if extirpation required it should be radical.

Tuberculosis from the Standpoint of Public Health.

R. J. Burns, Health Officer of the City of Freeport: Dr. Burns said it was a fallacy to believe that consumption might be transmitted through a family after a lapse of several years where one person in the family had been a subject of the disease. This superstition, he said, is fast dying out, and that a child born of parents having consumption need not necessarily be affected with the same disease. He said that in Stephenson county during 1902 there were 391 deaths, of this number 26 being due to tuberculosis; in 1903 there were 384 deaths, 29 being due to tuberculosis. In the state there were 61,144 deaths during the first period, tuberculosis claiming 6,895; in 1903 there were 61,037 deaths and the loss by tuberculosis was 7,026. He declared the disease to be on the increase in the county and the state. The subject is one of the greatest importance, and the co-operation of educators and others was asked to help in the work that is being done to stop the spread of the disease. He favored the erection of a county hospital for tuberculosis patients. The first expense would be the greatest, as the number of patients would decrease in the ratio to which the public were educated in preventing themselves from being affected.

Discussion.

Dr. J. W. Pettit, Ottawa, Ill.: It is quite remarkable that all the papers here presented are so correct upon this much tabooed subject. But as to treatment I wish to say a word. I do not entirely agree with what the paper upon the subject has to say. The less we have to do with drugs the better we succeed. No need for cough remedies, germicides or anti-sweat medicines. We have a fault of nutrition and any medical treatment is merely incidental. **Avoid** drugs where possible. I am sorry the writer is not here to discuss his subject. He does not emphasize open-air treatment enough.

The first essayist gives us a quotation from Hippocrates who mentions feeding the patient as the best treatment of phthisis. We find we are right back again where the profession started. I was glad one essay dwelt upon heredity, and we know the whole question is one of resistance. I was very much pleased with Dr. Burns' paper. The prevention of the disease is of paramount importance.

I want to emphasize particularly what he says about the relation of physicians to politics. Some years ago I was appointed to a committee to secure a medical practice act. The reason we got no better results and failed almost absolutely was because of the profes-

sonal apathy. We could have had everything we asked for if we had stood together. We owed our defeat to, first, the indifference of the profession, and second, the different views held by everyone, and when we got to Springfield we were up against the attorneys of the quacks, and what we did get, was gotten through personal influence. I would not go through this again for $10,000. We owe our profession and our people a duty that we cannot deny. Prevention should be the aim and we need the public ear and interest.

There was one thing that was not touched upon. No one mentioned one kind of legislation. In every town an anti-spitting ordinance should be found. But this cannot be inforced unless the public interest demands it. In Ottawa, Ill., the ordinance was at first jeered at. Today it is enforced to the utmost by all, and none dare speak against it. The people will do these things if they realize the danger and we are responsible for their ignorance. The press should be interested. Not advertising like the quacks, but for the dissemination of medical wisdom. Eight hundred out of one thousand papers in Illinois have promised to aid the State Medical Society, and today we are noticing the increase in the popular knowledge of tuberculosis.

Dr. Burns advocated the establishment of a County Hospital for tubercular patients. The time is not yet ripe. I believe state institutions should be established first. Private places for the wealthy, public places for the poor. I believe home treatment is the future treatment. But the time for this is not yet ripe. Commence with one state sanitorium and, as it proves successful, increase the number. The duty of every physician is to keep the patient at home. Don't send them away. It seems to me that we are in a fight of more importance to all than any other question ever before us and the people.

Dr. J. H. Stealy, Freeport, Ill: I believe Stephenson County Society has done more in the last two or three years to open up the question than ever before. I argue that medicine to a certain extent must be used. For the laity is not yet sufficiently educated to allow us to do away with it entirely. In mixed infections I think we should use medicine. In Germany, they advertise boiled meats. These are tubercular, and I question if the Germans would do this if there be danger. As to statistics the apparent increase in tuberculosis in this county may be due to our greater ability to diagnose the trouble.

Dr. Saucerman, Rock Grove, Ill: I am well pleased with the co-operation and program here shown. The early diagnosis is very important and do not fool away time in delaying treatment. What is the best way to dispose of the trouble? Whom shall we tell when we have discovered a tubercular patient. The earlier the patient knows his trouble the better he can aid us in fighting it. But there is one thing we must watch out for in this crusade. The public are apt to expect too much in the way of cure and then, becoming discouraged, the pendulum may swing the other way.

Dr. E. H. Best: I want to tell Dr. Pettit that we have an anti-spitting law in this city.

In the evening Dr. Pettit addressed the public on this subject and the meeting was reported in the daily papers as follows:

OPEN AIR TREATMENT.

ADVOCATED AS CURE FOR "THE WHITE PLAGUE."

Dr. J. W. Pettit Discusses Treatment for Tuberculosis—Favors Establishment of Sanitaria.

Aroused by the appalling statistics that have been gathered to show the yearly death loss by tuberculosis, a public meeting was held last evening at the First Presbyterian Church, under the auspices of the Stephenson County Medical Society. Several hundred people were present, including Sisters of Charity, professional nurses, educators and physicians of the city. Dr. J. W. Pettit, of Ottawa, Ill., chairman of the committee on tuberculosis of the Illinois State Medical Society, made the principal address, and his remarks in reference to the early care of patients, their diet and open air treatment, made a marked impression. He frowned on the old theory that consumption was hereditary and declared that by proper treatment all traces of the disease would be removed from families afflicted.

The meeting was presided over by Dr. W. J. Rideout, president of the local society. At the afternoon meeting a number of papers on the subject had been read, the one on **Tuberculosis from the Standpoint of Public Health,** by Dr. R. J. Burns, of Freeport, being especially timely, and Dr. Burns was invited to read the paper at last night's meeting.

Dr. Pettit's Address.

Dr. Pettit referred briefly to the statistics that had been gathered in regard to people having tuberculosis, saying that in the United States last year there were 160,000 deaths from this disease, Illinois contributing 7,000, and that more people die of tuberculosis every thirty days than perished in the Iroquois fire. There are 10,000,000 in the United States afflicted with this disease now who will die if steps are not taken to help them. He said that tuberculosis was the most easily communicable and the most easily cured of any of the contagious diseases. The press has given the state society its best support in publishing statistics and means that will aid patients in helping themselves, and Dr. Pettit said great praise was due to the papers that have done this.

Dr. Pettit impressed the audience that the first essential of treatment was fresh air, good food, rest and living out of doors. He did not presume to have more knowledge than that possessed by the average physician, except in so far as the duties of his position and the interest in the work caused him to investigate. Consumption of the lungs, he said, was our national

disease, and it is the cause of more than 10 per cent. of all the deaths that occur. Until within the past few years it was almost universally believed that consumption was hereditary, incurable, and, in many cases, inevitable, but now the contrary is known to be the case. Notwithstanding this fact, they are not applying this knowledge with that vigor and promptness which should characterize the medical profession. The reason of this, perhaps, lies in the fact that home treatment is not practicable, because so many cases occur in families where it is not possible to make the application; and second, where patients are more favorably situated, it is impracticable, for the reason that the modern methods have not been accepted by the laity with that degree of confidence so essential to applying the treatment successfully. A third reason might be given that the methods are not well understood by the average physician, and where they are, they consume so much time and energy that it is hardly possible for the busy physician to get the time from his other work to devote to the few patients whom he may have under his care. Dr. Pettit said he was a firm believer in the practicability of home treatment of tuberculosis, but he believed that the time has come when the education of the public and the profession must come through sanitaria; that sanitaria are to be the training schools which shall be centers of influence in propagating the new doctrine and its methods, and he believed it would be wise for the profession to devote its energy to the establishment of sanitaria, rather than take the risk of bringing the open air and dietic treatment into disrepute by the many failures which must result through lack of experience of the individual physician, and, more than all, lack of co-operation on the part of patients and friends.

In regard to the fresh air treatment, Dr. Pettit said that the site should be somewhat elevated, pleasantly surrounded, plenty of sunlight, good water, good drainage and freedom from all irritating and infecting organisms. Climate cuts no particular figure, if the above conditions are complied with. The well clothed and nourished patient may defy the coldest temperature and there is no danger of catching cold. His recovery is apt to be more quick in cold weather than in warm.

After dwelling at length on the diet, fresh air treatment and attention to the patient, Dr. Pettit said:

"There is nothing to discourage the most apprehensive patient in the life experienced in an open air sanitarium. Notwithstanding the fact that the public mind has been so quick as to pick out two apparent rigorous items and to identify with them the whole method of treatment, it is commonly remarked by those who hear for the first time some account of the treatment that they could never stand the cold and that the treatment would kill them. But in point of fact, the patients are not allowed to become cold, and the treatment so strengthens the assimilative functions that the bod needs more food and no unpleasant crammin is required. It is a fact born out by my experi ence that patients soon learn to enjoy th treatment and particularly that which is to th inexperienced person most formidable—the lif out of doors.

"It should be borne in mind that patient who come from comfortable homes are not re quired to remain in sanitaria until cured. Lif in sanitaria may vary from two to six months. A cure can hardly be said to be effected unti two years have elapsed, although the patien may in the meantime appear to be perfectl well. As a general rule, a patient should sta long enough to learn the methods of treatmen and then be returned to his family physicia for supervision and direction for such time as may be necessary. The patient should never b allowed to return to the methods of living which induced the disease, as he is almost cer tain to relapse.

"With the results of sanitarium treatment you are no doubt familiar; they are eminently satisfactory. Generally speaking, 20 to 30 per cent. are apparently cured, 25 to 35 per cent. disease arrested, 25 per cent. much improved. The results in any sanitarium will necessarily vary from time to time, depending upon the class of patients under treatment and the stage of the disease. Indeed so much depends upon the stage of the disease that herein lies the chief responsibility of the family physician. It is needless to say that incipient cases will be cured more certainly and quickly. Results show about 90 per cent. in that class; in the second stage, about 50 or 60; while in the third stage, not to exceed 5 per cent. The percentage of the third stage cases cured is so small that it is a useless expense to the patient and an almost hopeless undertaking for the physician; therefore, they had better remain at home.

"Another practical point, and one which is essential to success, is the importance of an early diagnosis. It is self-evident that the earlier the diagnosis is made the more certainly can a cure be effected. The profession must awaken to the fact that if the disease is not diagnosed until it is well advanced, as is now too often the case, the time when a cure could have been effected may have passed. Unfortunately such mistakes cannot always be remedied. Many a patient's life is sacrificed because a diagnosis is not made early enough for him to avail himself of the advantages of treatment. As physicians we should be on the alert to recognize the disease early, and if, after the most painstaking efforts, we fail to diagnose the disease and still have reason to suspect it, we should give the patient, and not the disease, the benefit of the doubt by promptly placing him under proper treatment.

"The balanced ration is an essential feature in the treatment of tuberculosis. Since the whole question is one of nutrition, it is esse-

tial that the patient be fed, not what his appetite may suggest, but a balanced ration, which shall contain from day to day, all the elements of nutrition, which the tubercular patient so much stands in need of. In order to accomplish this, the one who prepares his food must have a scientific knowledge of food values.

Not only is this essential, but the palatable preparation and the esthetic service of the food is quite important. This can only be done by cooks who have had scientific training such as is given in the best domestic science schools. This leads me to suggest that domestic science as taught in many of our technical schools will play an important part, and should occupy a conspicuous place in the treatment of this disease. To this end, and with this in view, I have the honor, as I believe, to have secured the services of the first domestic science graduate who has engaged in this work.

"We are now seeking to arouse a public sentiment that will result in the establishment of state sanitariums for the care of the unfortunate people who may be afflicted with tuberculosis. I trust we may guard against the mistake that has been made in all of our state institutions, without a single exception. Money has been lavishly expended in the erection of buildings and in equipment. The observing person who visits these institutions is apt to get the impression that they are maintained for the benefit of those who minister to the wards of the state, instead of the unfortunate classes in whose name they are established. While we should have due regard for the comfort of the tubercular patient, it is not necessary, neither is it desirable, that they should be housed in expensive buildings. Perhaps no class of patients can be more cheaply provided for in this respect than consumptives.

"In the fight against tuberculosis there can be no better object lesson than the sanitarium and the successful work done by it. We have too few of them. I hope the movement now on foot to erect a state sanitarium for Illinois will receive encouragement from every citizen of the state; that no feeling of personality or of politics will enter to interfere with its progress, and that our state will follow closely the excellent example set by Massachusetts, the pioneer in the work, whose sanitarium at Rutland has been enlarged to its fullest capacity, and where there is already an agitation for the erection of a second. New York, Pennsylvania, Ohio, Michigan and other states are rapidly following. May we soon see in Illinois a model sanitarium, an educative center to assist in overcoming the ravages of this dread, though preventable disease. If we can by the erection of sanitaria for all classes, rich and poor, and by carrying on the hygienic, dietetic, educational and symptomatic treatment for all consumptives outside such institutions, cure the curable and make harmless the incurable patient, the problem of dealing with the most widely spread of all diseases will have been solved."

PEORIA CITY MEDICAL SOCIETY.

Regular meetings are held in the Observatory Building, Peoria, on the first and third Tuesdays of each month. Membership 77.

Officers.

President ..... Dr. J. C. Roberts
First Vice President ..... Dr. E. E. Gelder
Second Vice President ..... Dr. B. M. Stephenson
Secretary ..... Dr. W. R. Allison
Treasurer ..... Dr. Jeanette Wallace
Member of the Board of Censors..Dr. A. J. Kanne

The Peoria City Medical Society met in the Observatory Building on Tuesday evening, October 25, for the election of officers: The above were elected.

The Peoria City Medical Society met in regular session at the Observatory Building with the following present: Drs. L. A. McFadden, President; J. C. Roberts, First Vice-President; B. M. Stephenson, Second Vice-President; S. M. Miller, Secretary; Jeannette Wallace, Treasurer.

Members present were: Drs. Davidson, Gelder, Sidley, Wallace, Sutton, Barbour, S. M. Miller, Kerr, Kanne, Roberts, Marcy, Cooper, Allison, Greene and Stephenson.

Dr. L. A. McFadden in his remarks as retiring President said as follows:

Ladies and Gentlemen—It has been the custom of retiring presidents of this Society to deliver a valedictory address, but I shall not attempt to make any extended remarks on this occasion, but merely say a few words on retiring from the honorable and responsible position which I have held during the last year, and express my appreciation for the trust you have reposed in me.

Our Society has grown in importance and numbers, and it has been a means of scientific development in our city and surrounding country. It has cultivated social with scientific advantages, and I trust that as the years go by we make rapid strides in the gaining of scientific knowledge and that we may not lose the prestige that we have gained in a social way. May we remain firmly cemented together and may good feeling and fellowship always prevail, for nothing speaks better for a medical society than for its members to be able to say that we are united and on friendly terms, and that all are laboring together to gain mastery over the diseases which afflict mankind, and that petty jealousies and selfish interests are put aside. May our fame for unity go abroad over our great commonwealth as the one society in which there are no bickerings or murmurings of discontent. Peace and harmony have prevailed among our members during my term of office, and our meetings have been well attended, the papers read have been of a highly scientific character, the discussions have been participated in by most, if not, all, of our members, and in this way the exchanging of experiences brought out by our discussions have made our meetings both pleasant and profitable. The cases reported have been of an instructive nature, and I congratulate not only myself but all our members as well that the year just closed has been the banner one of our Society; but let me here re-

mark that the success of our year's meetings has been largely due to the good, efficient and conscientious work of our Secretary, Dr. Sumner M. Miller. The officers of a society cannot do much towards making it a success unless they have the support of its membership, and in many societies I am sorry to say they do not, but in ours the retiring officers feel that they have had the support and hearty co-operation of all.

During the year, we were called upon to mourn the death of Dr. Paul Dombrowski. He occupied a prominent position in society, he was an honored and respected citizen, he was beloved by his professional brethren, and no man stood higher in this Society or in the profession than did he. We honor and revere his name, and it will illuminate our social and professional horizon for many years, and his memory will be kept as green in our minds as the grass that will grow over his grave during the years to come.

In conclusion I wish to say that I trust that the lives of all our members may be spared during the coming year, that we may attend the meetings of our Society regularly; and as for our incoming president, Dr. J. C. Roberts, I can ask nothing better than that he may receive the same courteous treatment from your hands as I have. Again, let me thank you, one and all, for favors shown, and your kind treatment during my term of office.

The chair appointed Drs. Kanne and Marcy a committee of two to escort Dr. Roberts, the newly elected President, to the chair. Dr. Roberts thanked the society for the honor conferred upon him. He then called First Vice-President, Dr. Gelder, to the chair, and then delivered the following address, a part of which was as follows:

In view of the fact, an effort is being put forth to make it obligatory for all cases of tuberculosis to be reported to the Health Department, I wish to call your attention to some of the difficulties that will beset us, as physicians, if such legislation is established, unless we are succesful in moulding such laws to subserve our interests.

I am sure there is not one among us, but who would further any project that would lessen the danger of infection or reduce the death rate of this plague; and I hope I may not be understood as raising one stumbling block against such a measure, but I hope to be able by pointing out some of the disagreeable features of the intended laws, requiring a report to the Health Department of all tubercular cases by the physicians, to show the necessity of being instrumental in forming such laws as may be enacted.

I have long contended that we must diagnose our cases of tuberculosis long before they have advanced to so grave a condition that the patient or his family are aware or suspicious of his condition. In other words, it is possible to diagnose tuberculosis before a suspicious cough or a marked degree of any symptom of disease is present, and if we do justice to our patients and to ourselves we must at this very early stage make our diagnosis.

The effort to publicly brand these patients as tubercular will cause many complications, such as, denying the correctness of our diagnosis, offsetting it with that of one less competent or conscientious, making it necessary to confirm the charge by a compulsory existence in a hospital and the use of tuberculin.

The embarrassment that many families would experience in this public exposition of its inmates would lead to many subterfuges. Family and personal histories, hereditary tendencies, etc., would be warped in order to avoid the public brand, thus defeating the ends of justice at the expense of their own best chance of a cure if not with their lives.

If such legislation as spoken of is instituted then we must be prepared to properly dispose of that very large class of children suffering from Adenitis, who, according to the best authorities, make up the sum total (almost) of the later number of adult cases. They must bear, as it were, a public brand for an average of twenty-three years, flaunting in the face of the diagnostician, rosy cheeks, red lips and all the elements of frolicsome youth.

If such legislation is instituted we must be prepared to cope with that strangest of all features of the disease, the personal consciousness, or belief of the patient that no such disease exists. It is strange, though no less a fact, that tubercular subjects are honest in the belief that nothing serious exists with them.

If legislation is instituted making it obligatory for physicians to report all cases of tuberculosis, then it becomes necessary to institute auxiliary legislation. It is a question of law whether a man is not liable to legal prosecution who betrays a secret of his patient acquired through the means of his being a physician (and it certainly is betraying the most sacred professional trust). Many of you recall the experience of the noted Dr. Playfair, of London, who was made defendant in a suit for $25,000, for divulging the physical condition of one of his patients.

If legislation is instituted, then it must be made to include all cases and all classes, the rich and poor, the highly educated, as well as the most ignorant, must be subjected to the same law, for there is nothing that will make a law so inoperative as class legislation. This is one of the fundamental principles upon which our American institutions are founded and would instantly be closed as a means of redress.

It is a question as to the limitations of the law. We have licensed preachers who administer unto the moral nature of man, but the state does not require him to become a public detective. There is but little, if any, difference in the sacredness of the information obtained in the priest's confessional, and that obtained in the physician's office, and the law holds the former strictly sacred.

It can be no crime for a man or child to have tuberculosis. The crime is committed when he interferes with the rights or safety of

his fellow man. Our present laws would prove sufficient.

I believe it is the duty of every physician to inform the head of all families the nature of the disease and the danger to others, or to the public, and when the physician has done this, all responsibility should cease on his part.

I believe we should have legislation on this matter, for it is a prevalent and loathsome disease. It is not necessary to speak of the high death rate over all other diseases, or how dangerous to humanity the average tubercular case is. Expectorated matter, deported in any manner other than burning, is a crime against humanity. Infected houses to be occupied by unsuspecting people are a menace to the public, and any crusade started to correct these evils should have our hearty support.

No one having any knowledge of the conditions needs any argument to convince him that something should be done to right a public evil, but the question is, shall we lend ourselves, as a profession, to be the detective agency of the State? Let us see to it that the responsibility be placed, where it by rights, ought to be. Let the heads of families notify the department and receive instructions adequate to the case, and if they impose on right and justice and are detected let them answer to the law as any other criminal.

Much might be written on the subject, but I feel enough has been said to show how necessary it is that any law that may hereafter be instituted, in view of controlling the spread of tuberculosis, needs our special care in construction, that the burden be placed where in justice it belongs, and I would offer this suggestion, namely, a standing committee be appointed whose duties it shall be to see that any local law that shall hereafter be enacted shall be so constructed as to comply with the dignity and office of our profession.

The discussion of the paper was opened by Dr. Davidson, who endorsed the points made by the essayist.

Dr. Barbour: This matter should be left to the physician. People will not always follow the advice of the physician. The people must be educated to understand what is expected of them.

Dr. S. M. Miller: I am glad this subject was brought up. The Associated Charities Association of this city has made me chairman, whose duties are to devise the best plan to combat tuberculosis and also to promote the work here.

Our plan is similar to other cities. Two months ago I brought before this Society the result of my work to report it, and to be discussed by you, before presenting it to the Associated Charities.

We have two ordinances which we hope to present to the City Council.

1. Will require registration of all cases of tuberculosis.

2. Proper disinfection of houses.

Our campaign will be one of education. No publicity will be made of any report to the Commissioner of Public Health.

I hope that the early diagnosis, the early symptoms will be better studied and sooner recognized, so that these cases will be given greater opportunity of recovery.

Dr. Kerr: I am of the opinion that too much stress is made on the report of tuberculosis. I am disposed to believe after many years of experience that the inherited tendency plus the exposure is necessary to produce the disease. The good to be derived is by educating the people. Shall we report all forms of tuberculosis, or does this apply only to pulmonary tuberculosis. May we not exclude the others, for I believe the contagion is from the lungs. I can, however, see it could be from many forms of this disease. We should impress the people of the danger of transmitting this disease to posterity.

Dr. Kanne: The points brought out by Dr. Roberts are quite timely. Has the state a right to demand a report from a physician? To report a case may cause the dismissal of the attending physician.

Dr. Marcy: This is an important subject, one that took a very prominent place at the State Medical meeting. It was here that a committee was appointed to prosecute this work of education and reduction of mortality from this disease. I have the honor of being a member appointed as a sub-committee. I think this subject one of the greatest questions of the day.

I do not see any reason why the report of these cases should be kept a secret. The living should be protected by law.

Dr. Cooper: Legislation as to control of tuberculosis is of vital importance. We must educate the people and isolate, and the sooner the better. This may require years, but the time will come when these cases will be compelled to go to hospitals.

Dr. Sutton: I am glad Dr. Roberts has brought out these points. Twelve years ago I read a paper, suggesting the education of the people to contagion. People will help when they are educated; they do not know what to do, and yet would be glad to assist if they know what to do.

Report the cases and reduce the mortality. It is not a matter of secrecy but one of common welfare. Let us do something.

Dr. Roberts in closing said that idea seemed to be that he was discouraging legislation. We must have a part in this organization. I do believe tuberculosis is probably hereditary. Adenitis is said to be caused by tuberculosis. Most of all adult cases of tuberculosis had adenitis when children. We should have a committee to word the ordinance so as to read just what we mean. The ordinance should only include the form of tuberculosis that is active danger. I would suggest that this Society have a committee to see to the form of the ordinance.

Society adjourned.

The Peoria City Medical Society met in regular session, at the Observatory Building, with all of the officers present.

Dr. R. L. Green was elected to succeed Dr.

E. M. Sutton, as censor, whose term of office had expired.

President Roberts announced the death of J. W. Hensley, which occurred on Monday morning.

Dr. Sutton moved that the chair appoint honorary pall bearers. The chair appointed the following: Drs. Will, Marcy, Roskoten, Kerr, Bradley and Collins.

Dr. Kerr moved that the President, First Vice President, and Secretary be made the committee on resolutions and flowers.

The committee reported the following resolutions:

Whereas, Once more has death taken from us one of our members. In sorrow and sadness we submit, for Dr. J. W. Hensley is dead; therefore, be it

Resolved, That the Peoria City Medical Society has lost an esteemed and valued member, the medical profession bereft of a safe and eminent diagnostician and the community a gentleman whose life and works are an irreparable loss.

Resolved, That this Society extend to the wife of the deceased in this dark hour of her affliction, our sympathy, and to the children may their father's moral life and purity of purpose be their consolation.

Resolved, That in all that was good and great in the life of him for whom we mourn may we all receive new inspirations and new hope of an eternal reward for the faithful.

J. C. Roberts,
E. E. Gelder,
W. R. Allison.

Dr. Collins presented an interesting case of dislocation of the patellae in a girl aged nine years, this case was carefully examined and discussed by many of those present.

The president introduced Dr. Emil Ries, of Chicago, as the essayist.

Dr. Ries read an interesting and very scientific paper on the subject of **Callous Ulcer of the Stomach.**

He said that there were cases in which no amount of clinical or operative examination is sufficient to make a diagnosis of callous ulcer, therefore all must depend on the microscope. In speaking of differential diagnosis between carcinoma and this disease he said the long duration was one differential point.

The presence or absence of hydrochloric acid, nor the microscopic examination of stomach contents, are no aid in making diagnoses. The diagnosis between carcinoma and callous ulcer is almost impossible. The doctor spoke of two diagnostic points; first, search for metastasis, second, slides prepared during the operation.

He said that involvement of lymph-glands, are not diagnostic aids; that duration of disease is not reliable as diagnostic factor. He suggested that in treating callous ulcers they be dealt with as if they were malignant and advised resecting the ulcer bearing area; because when it is removed, it matters not whether it be called ulcer or a malignant condition. The doctor said that often these ulcers became malignant.

Dr. Sutton: I feel like congratulating this Society in having such a nice start for the new year. Such papers as we have just listened to are of much interest. We are lead into a new field of knowledge regarding callous ulcer. The resection of the ulcer is for fear of its becoming malignant is important. We have had in the past patients who had hemorrhages; coffee ground vomit, etc., from which has been made the diagnoses of malignancy, which might have been relieved by adopting the measures advocated in this paper.

Dr. Kerr: I wish to express my appreciation of this practical paper. We have all been benefited by it; the diagnostic signs so called are knocked down. The hydrochloric acid test; the duration of disease are uncertain. Now we have to go deeper and explore.

Dr. Roskoten: I know so many place faith in medical treatment. I have been hoping that some one would make the diagnosis so clear that we could tell when to direct a patient to the surgeon and when to rely on medical treatment. I hoped that some one symptom would prove reliable. If I had a case of gastric trouble that did not improve after medical treatment, within a seasonable time, I would suggest calling the surgeon. After several years practice as a medical man I am willing to turn over my obscure cases to the surgeon.

Dr. Ries (in closing): What I want to say in this paper has been expressed by Dr. Roskoten. Our differential diagnosis is of no benefit, medical treatment is not successful. Such cases may die before the diagnosis can be made. They should be operated before it is too late and not let go on to a malignant condition.

The callous ulcer explains why some cases of tumor of the stomach get well. Carcinoma always goes on to death. Callous ulcer may improve.

We are sorry to write you that Dr. J. W. Hensley is dead. He passed away on the morning of November 14, 1904.

Dr. Hensley was one of our most prominent physicians and took an active part in our Medical Society.

He was elected president of the Peoria City Medical Society in the year 1894 and often contributed valuable papers for consideration of the profession.

The doctor was one of our most earnest workers in our society.

CUMBERLAND COUNTY MEDICAL SOCIETY

Regular meetings are held Tuesdays of April, June, September and November.

Officers.

President ..... G. E. Lyon
Secretary-Treasurer ..... W. R. Rhodes

The Cumberland County Medical Society met at the Court House in Toledo and opened in due form with the following officers in the chairs: G. E. Lyon, President; W. R. Rhodes, Secretary.

The regular routine of business was gone

through with and the following literary program rendered:

Dr. R. L. Kurtz, of Neoga, gave a well prepared paper on **The Differential Diagnosis of the Various forms of Gastro-Intestinal Diseases That are Liable to be Confounded with Typhoid Fever.**

Dr. W. R. Rhodes, of Toledo, Ill., presented two clinical cases with line of treatment followed in same. a. **Fracture of 7th, 8th and 9th ribs at Costo Chrondal Junction on Left Side.** b. **Gonorrheal Endometritis Complicating and Terminating at two Months Pregnancy.**

A motion was passed that all members of the Medical profession in Cumberland County past the age of sixty years and having been members in good standing of at least one or more recognized Medical Societies for a number of years be admitted to our society without the payment of dues.

The meeting was then adjourned to meet again the second Tuesday in April, 1904.

KENDALL COUNTY MEDICAL SOCIETY.

Meetings are held the second Tuesday of May and October at Yorkville.

Officers.

President ..... F. R. Frazier
Vice President ..... Thomas Drew, Oswego
Secretary-Treasurer ..... R. A. McClelland

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The annual meeting was held Tuesday evening, October 11th, the above officers were elected.

A very good attendance of members present, the membership of the society was increased one by the application of Dr. W. H. Livermore of Plattville, Ill., which was received and referred to the board of censors and favorably reported on when the doctor was voted a member.

The newly elected president appointed as a Board of Censors, Drs. Drew, Kinnett and Johnson. Doctor Sippy of Chicago and his assistant Dr. Daniels were present and Dr. Sippy gave the society a two hour address on some of the **Diseases of the Stomach and Intestines,** never before has the society been entertained so profitably by a speaker on this subject. Dr. Sippy is truly a master of this subject, his easy manner of handling the subject enabled those present to follow him and all were greatly benefited.

For some reason our annual banquet was not held this meeting but it was voted that after this it shall be held.

A committee consisting of Drs. Moore, Freeman and Kittler were appointed to arrange program for next meeting.

A vote of thanks was extended Dr. Sippy for his kindness to meet with this society and the benefit we received.

Report of the Secretary-Treasurer was read and on motion received and adopted. The matter of increasing our membership was open for discussion, there are several physicians in this County who are not members and as it is the desire to have all of them become members, the President stated he would make a greater effort to induce them to join the society. It was the concensus of those present that something should be done to have all physicians become members of their county society to be in good standing in the state.

No further business the society adjourned to meet the second Tuesday in May, 1905.

LAKE COUNTY MEDICAL SOCIETY.

Officers.

President ..... Dr. W. C. Bouton, Waukegan
Vice President...Dr. Charles E. Daniels, Waukegan
Secretary-Treasurer..Dr. A. C. Haven, Lake Forest

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A regular meeting of the Lake County Medical Society was held in Waukegan, Monday evening, November 7. Dr. Charles E. Daniels, of Waukegan, read a paper upon **Fistula in Ano,"** in which he emphasized the necessity of thoroughness in opening every sinus to the bottom, and also spoke of the danger of overdilatation of the anal sphincter.

Dr. J. C. Foley, of Waukegan, read a paper upon **"Eclampsia,"** in which he recommended accouchment force in which he relied upon manual dilatation; he also recommended morphine hypodermically with chloroform.

Dr. A. C. Haven, of Lake Forest, read a paper upon **"Scarlet Fever,"** describing some of the peculiarities of the epidemic in Lake Forest of two winters ago.

The above officers were elected:

Waukegan's new hospital is now open and receiving patients. Many of the manufacturing plants in Waukegan and North Chicago have endowed beds in the new Waukegan Hospital.

Alice Home, Lake Forest Hospital, has just finished five years of operation, during which time five hundred patients have been received and cared for, more than one-half being surgical cases.

The Common Council of the city of Lake Forest has appropriated $4,000 for the purpose of purchasing land for a new Isolation Hospital. Plans have been drawn by Messrs. Frost & Granger for a fine new building, thoroughly modern in every detail. Difficulty has so far been experienced in finding a suitable location, property owners promptly objecting to its proximity. A committee of the Council expect to overcome this obstacle.

MORGAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Jacksonville the second Thursday of each month.
Membership 40.

Officers.

President.....F. P. Norbury, Jacksonville
Vice-President.....T. W. Hairgrove, Jacksonville
Secretary.....D. W. Reid, Jacksonville

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The Morgan County Medical Society met November 10 at the Library at 7:30 p. m. in regular monthly session F. P. Norbury, President, in chair. Members present, 11; visiting doctors, 4; other invited guests, 6. A special program had been arranged, consisting of papers read by Miss Bedford, of New York, associate editor of Table Talk; Miss Greer, superintendent of Training School for Nurses,

Passavant Hospital; and Miss Catlin, superintendent of Maplewood Sanitorium.

Miss Bedford's subject was **Dietetics as Applied to Nursing.** She first spoke of the starchy foods. In all this class of food the starch globules must be thoroughly broken up. Rice is a good example of starchy food, but not generally cooked long enough to break up the starch globules, preparing them for an easy digestion. In cooking starchy foods it is not sufficient to cook, merely till it has reached its limit of expansion, it must be cooked longer; thickened starch is not cooked starch. Potatoes are a good starchy food, but difficult of digestion by weak stomachs. The best type of starchy food is found in grains, and as prepared in bread, properly raised and above all, properly baked, is at its best. Much bread is not sufficiently baked. Bread that "doughs" in the mouth will "dough" in the stomach, and in this form is impervious to the gastric juices. Thorough baking not only makes the bread palatable, but makes it easier of digestion, as part of the starch is changed to dextrine, the first step in digestion, as shown by the sweet brown crust on the outside, when it is most perfectly baked.

Among the fats, butter is the most digestible in common use. While fat is a necessity in food, few forms of fat are readily assimilable. Hot fats, as butter, lard, etc., used for cooking, are broken up at a temperature far below the burning point of fat, liberating indigestible fatty acids. Where melted butter may be used to advantage in a sauce, the same butter heated to a high degree and mixed with flour as an initial step coats the starch globules with the objectionable disintegrated fat and protects them from the action of the digestive fluids. Thin slices of well-baked, or lightly toasted bread, coated with good butter, is not only a palatable, but an easily digested and highly nutritious combination of starch and fat. Another form of fat easily assimilated is lightly fried, fat bacon, while fresh roast pork is the opposite. The curing changes the fat of bacon and it is the fat bacon, not the lean meat, or that form which all the "grease" is fried out that is of value. Thin, fat bacon is becoming a rival of cod liver oil in the treatment of consumption.

The egg is the type of the albumins. But eggs are best cooked alone, as they require less heat than almost any article of food to which they are added. Custards containing eggs should be lightly cooked. Eggs impair the digestibility of an otherwise good pudding. The heat that will cook a pudding or a cake destroys the utility of the contained eggs. Albumen coagulates below the boiling point of water. To "boil" eggs renders the whites impervious to the digestive fluids. Eggs should be cooked below the boiling point of water. The white should be a jelly-like translucent mass.

As to flavoring, invalids are hypersensitive. Not all flavors are wicked. Much depends upon the strength or amount used. An agreeable flavor adds to the value of food. To be digestible, food must be palatable. Many vegetable spices and flavors can be used profitably if used in moderation. Sugar is good, but if used for coffee, say, it should not be also used at the same meal for oatmeal and in sweetened cookery, as cake, etc.

Invalids are hypercritical about the appearance of food. A working man wants a "good square meal," and feels equal to a whole table full when he sits down, but an invalid's slight appetite disappears if the bread is too thick or the cup too large. An ideal arrangement on the dish should tempt the appetite. The shape of the toast or the shape of the butter may decide the question of the invalid's appetite.

Miss Greer's paper was a picture of a trained nurse as she exists today. The paper was a very thoughtful, earnest presentation of the arduous duties of a trained nurse; the high qualifications demanded; the years of hard preparatory work that go to make up her professional education; the discouragements, the homesickness, the pleasure and rewards accompanying. She spoke of the loyalty to the physician that was drilled into her from the beginning to the end of her course, and made an earnest plea for a like loyalty on the part of the physician to the trained nurse as a member of the kindred profession.

Miss Catlin, after some remarks on the uses and methods of massage, gave an admirable demonstration on the living subject, accompanying her movements by a verbal description, giving the lesson the full effect of a clinical lecture.

PIKE COUNTY MEDICAL SOCIETY.

Regular meetings are held quarterly. Membership 32.

Officers.

President ..... H. T. Duffield, Pittsfield
Vice President ..... W. E. E. Shastid, Pittsfield
Secretary and Treasurer ..... R. H. Main, Barry

The Pike County Medical Society met at the office of Dr. H. T. Duffield in Pittsfield, President H. T. Duffield presided.

Members present were: Drs. J. Smith Thomas, W. E. Shastid, Thos. W. Shastid, F. M. Crane, P. W. Brown, R. H. Main, H. T. Duffield, G. U. McComas, O. F. Wellenreiter, R. O. Smith, Geo. A. Humpert and B. B. Dunn.

Visitor, Dr. J. E. Melton, of Fish Hook.

The following were elected to membership: M. V. Collins, of Barry; W. F. Bowman, of El Dara and J. E. Melton, of Fish Hook.

Dr. J. Smith Thomas read a paper on **Typhoid Fever, Its Management and Treatment from the Standpoint of a General Practitioner.** His remarks contained many excellent suggestions relative to the management of this disease. He also asserted that in his opinion this disease is of a milder type in the south part of Pike County than in the northern part of the same county, but no satisfactory explanation was offered for this supposed condition.

Dr. W. E. Shastid reported on the State meeting at Bloomington, speaking at length on the symposium on **Tuberculosis.** In his opinion much good will be accomplished along the line

of the **Cure and Prevention of Tuberculosis,** and he thinks that this meeting is the beginning of an epoch in the work.

Dr. R. H. Main advocated a general quarantine against venereal diseases asserting that:

1st, in his opinion more damage is done to public health from these than from all other contagious diseases combined barring tuberculosis and pneumonia.

2d, that venereal diseases are decidedly on the increase.

3d, no other contagious diseases could be so easily prevented by strict quarantine, and

4th, that the idea is feasible.

By a vote of the members the January meeting will be omitted.

WHITESIDE COUNTY MEDICAL SOCIETY.

Regular meetings held in Morrison and Sterling, consecutively, bi-monthly, second Wednesdays.

Officers.

President ..... Chas. Parker, Sterling
Vice President ..... E. P. Sullivan, Morrison
Treasurer ..... J. T. Keefer, Sterling
Secretary ..... C. G. Beard, Sterling

The Whiteside County Medical Society met in the Court House at Morrison, October 12, 1904.

After reading the minutes of the last meeting, Dr. R. H. Shaw, Erie; Dr. S. B. Diamond, Albany; Dr. R. E. LaRue, Erie., were elected as members of the society.

Dr. Anthony read a paper on **Puerperal Sepsis.** This paper was discussed by most of those present, upholding Dr. Anthony's views on treatment.

Dr. Diamond reported a case of **Puerperal Sepsis** complicated with Lobar Pneumonia with a maximum temperature of 108.5 with recovery.

Dr. Beard read a paper on **Gonorrhoea** and its treatment. This paper upheld the irrigation treatment and also pointed out the liability to cause Bartholmitis by passing a large size speculum with a report of three cases.

Those present were: Drs. Griswold, Shaw, Diamond, Proctor, Sullivan, Newton, Fitzgerald, Mathew, Overbaiser, Starms and Beard.

McLEAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Bloomington the first Thursday of each month. Membership 95.

Officers.

President.....F. C. Vandervort, Bloomington
Vice President ..... A. L. Fox, Bloomington
Secretary-Treasurer.....R. A. Noble, Bloomington
Censors: C. M. Noble, J. E. Fenelon, C. E. Chapin

The regular meeting of the McLean County Medical Society was held at the High School building, Thursday evening, November 3, 1904.

The following amendment was read to be voted on at the December meeting:

"On and after the first day of January, 1905, no member of this society shall accept the position of club, society, or organization physician, or do or agree to do medical or surgical work for any club, society or organization at a less rate than the regular customary charges for like services rendered by other physicians for patients not members of such club, society or organization.

Also, in no case shall any physician agree to attend the families of the members of such club, society or organization at half price or a less price than the regular rate.

Nothing in this section shall be construed as preventing any member from attending the worthy poor at a less rate or from giving free services to those who are too poor to pay anything, or from acting as city, county, or town physician, health officer, or from serving under any political appointments or acting as surgeon for any railroad company under contract.

Any violation of this by-law shall be considered unprofessional conduct and shall render the member guilty thereof and liable to suspension or expulsion from this society, as the society may determine."

On motion of Dr. E. Mammen, the regular order of business was dispensed with and the meeting was turned over to the Health Committee.

Dr. J. B. Taylor, chairman, made short introductory remarks, regarding the work of the committee and introduced the essayists of the evening, Drs. J. K. P. Hawks and R. A. Noble.

Dr. Noble's paper was confined to **Bacteria in Milk,** together with exhibition of stereoptican plates of bacteria found in the milk supply of Bloomington. Dr. Hawks read a very able paper on the **Practical Application of Bacteriological Methods to the Producer and the Consumer.**

Bacteria in Milk.

Robert A. Noble, Bloomington, Ill.: Milk is probably used more frequently as a food than any other one article. Milk enters into the composition of so many of our articles of diet; it is the sole food of infants and with invalids, it is the principle article of food; therefore, it is of the utmost importance that the producer furnish a pure, clean, unadulterated supply of milk to the consumer.

Many elements enter into the consideration of the production of a proper milk supply, but nowhere is "cleanliness next to Godliness" more applicable than in the production and care of milk.

The modification of dairy methods has been most rapid in the past ten years, due to new conditions and new discoveries; but nothing has had a greater influence on the betterment of dairy conditions, than the knowledge which has developed concerning bacteria and their relation to milk. "Sometimes the connection between modern methods and bacteriological discoveries is very apparent; sometimes it is less apparent or only incidental, but there is no one series of facts which has produced such a profound effect upon dairy processes as those associated with bacteriology."

Bacteria are microscopic, colorless plants which are extremely abundant in earth, air and water. They are closely related to yeasts and moulds and belong to the class of colorless plants called fungi.

Ordinarily, bacteria are simple in form and they have been compared to billiard balls, lead pencils and corkscrews. In size these germs

are so minute that it requires a microscope magnifying many diameters, to enable us to study them successfully. Each bacterium is composed of but one cell.

Bacteria reproduce themselves in one of two ways, either by simple fission, in which the cell divides into two cells, or by spore formation, in which the reproducing part of the cell is collected into a single mass called a spore, after which the wall of the cell breaks down and the spore is liberated. Under proper conditions this spore develops and reproduces the germ.

There are over two hundred varieties of dairy bacteria found in milk and its products. These germs originate from different sources and some conditions are more conducive to their growth than others.

We will divide the bacteria found in milk into the following groups or classes: (1) Those forming lactic acid; (2) Those germs which produce fermentation and putrefaction and (3) a miscellaneous group, including special germs of disease.

(1) Lactic acid bacteria:

These occur in a variety of forms, appearing mostly as short oval rods or cocci, resembling each other closely in size and shape. The source of contamination is from the cow or from hay or both. If these germs are found in milk, they have been introduced during the time of the milking. Milk maintained at a moderate temperature for a number of hours, affords an opportunity for these germs to multiply very rapidly.

The presence of lactic acid bacteria in milk, in large numbers, signifies that the milk has not received proper care in its handling.

(2) Germs producing fermentation and putrefaction:

These germs have a direct injurious effect on the milk, by reason of the enzyme or ferment which they produce. Two distinct types of action are recognized,— a curdling action and a digestive action.

The tryptic ferment, which has a digestive action on the curd converts the milk into a semi-transparent fluid, with a variety of tastes and odors indicative of putrefaction. Germs producing this putrefaction are readily distinguishable, as when grown on gelatin, this enzyme or ferment digests the gelatin and causes it to liquefy. These germs producing liquefaction are found in various forms of filth, and their presence in large numbers, in a sample of fresh milk, is to say the least suspicious.

(3) Miscellaneous group:

Types of bacteria which color the milk, produce gas or disagreeable odors or flavors, are always objectionable.

Some bacteria thrive in milk, and while showing no direct injury to the milk, may cause disastrous results to the consumer. These are germs of disease and should be carefully guarded against. Other germs produce poisonous toxins and are directly injurious to the stomach of the infant or invalid and are credited with being the cause of cholera infantum and other similar maladies.

The sources of bacterial contamination of normal milk are many. The most frequent sources are the cow itself, the air, the milk vessels, and the milkers.

The rapidity with which germs grow, depends largely upon the temperature at which the milk is maintained. If from a sample of milk, two portions are taken and one portion is kept at a temperature of 40° F. and the second portion maintained at a temperature of 80° F., we will find that comparing the bacterial count of the two portions at the end of twenty-four hours, with the count of the original sample when fresh, that the portion which has been maintained at the higher temperature has a greater number of bacteria per cubic centimeter, than the portion which has been kept at the lower temperature.

The determination of the extent of bacterial contamination may be considered under two heads, quantitative, in which we ascertain the number of germs in a cubic centimenter of milk and from that draw conclusions as to the suspicious nature of the milk; differentiation of species in which individual bacteria are isolated and studied. The majority of work done in bacterial analysis is confined to the quantitative work in ascertaining the number of germs in a cubic centimeter of milk.

The addition of preservatives to milk, the one most commonly used being formaldehyde, which masquerades under the name of preservaline, formin, freezin, etc., retards the rapidity of the growth of bacteria in milk. Milk, to which formaldehyde has been added, if examined on successive days, shows a gradual disappearance of the preservative from the milk. With this disappearance, the germicidal action of the formalin keeps tally, so that milk which at first may appear good from a bacteriological standpoint, when examined after the germicidal action of the formaldehyde is exhausted, may be found to be badly contaminated. The use of preservatives in milk is a shield for the producer to cover his errors in the production and after care of the milk (1) by disguising milk which has been badly contaminated, and (2) by covering over improper after care of the milk in its transportation to the consumer.

The number of bacteria in milk is dependent upon three factors: (1) The care in the dairy; (2) the care in the transportation; (3) the temperature at which the milk is maintained. Milk produced where the sanitary conditions are bad, will contain a large number of bacteria. The qualitative analysis of milk enables us to determine approximately the cleanliness of the conditions under which the milk has been produced.

Milk, which is only a few hours old, containing a large number of bacteria, indicates that the conditions under which it was produced were unclean. If the sample is old and the number is large, it indicates that either the original source of production was unclean or that the milk has not received the proper

are in its subsequent handling. If the number of bacteria is small it indicates (leaving out the question of preservation and sterilization) that the conditions governing production and transportation are satisfactory.

By modifying the common bacteriological methods of study it is possible to differentiate the different groups of bacteria. To do this it is necessary to prepare special culture media which we call litmus gelatin. Examination of the litmus gelatin plates after a few days, shows, if any of the acid producing germs are present, red colonies surrounded by a red halo scattered over the plate. As has been stated, the enzyme bacteria are called liquefiers, because the enzyme has digestive properties which liquefies the culture media. Two forms are recognized, those which liquefy rapidly so that in thirty to forty hours the plate may become completely liquid, and a form which produces pits or indentations in the gelatin plate.

If the number of liquefiers is high it indicates that the milk is suspicious and suggests that the opportunities for contamination at the dairy are considerable.

It is rare to find lactic acid bacteria in fresh milk. If the milk is kept at a moderate temperature for a few hours, the few lactic acid bacteria present grow very rapidly and soon outnumber all the other species combined. If the total number of bacteria in a single sample is high and the percentage of lactic acid bacteria is low, the milk is abnormal and suspicious, as milk produced under proper conditions will by the time bacteria appear in quantities, have a large percentage of lactic forms.

If a sample of market milk is found to contain a large number of bacteria and the large percentage of these are lactic acid germs, it signifies that the milk has been kept at a moderate temperature for a number of hours. On the other hand, should the sample contain a large percentage of the putrefactive type or of the miscellaneous forms, it renders the milk suspicious and suggests great primary contamination of the milk. Filth about the barn or cow is likely to contaminate the milk with a considerable variety of bacteria and the presence in a sample of milk of a considerable number of miscellaneous types, suggests excessive contamination.

That class of diseases which manifest themselves by intestinal disturbances, in which diarrhoea is a more or less constant symptom, is of considerable importance. These diseases usually occur in the warm weather when the opportunities for bacterial growth are the best, and occur most frequently in children, the disease being styled, summer complaint, cholera infantum, etc.

If the bacteria have an opportunity to multiply in the milk before it is used as food, they produce their toxic or poisonous secretions in the milk. When such milk is taken as food these toxic secretions act as direct poisons and produce the intestinal disturbances which are manifested by the diarrhoea.

It is possible that the bacteria may multiply and produce their poisons after they reach the stomach and intestines. In such cases the diarrhoeal disturbances would be due to the growth of the bacteria in the intestine.

We have considerable evidence which shows that in part, at least, the bacteria which have been described as enzyme or putrefactive bacteria produce these intestinal symptoms.

Summary.

1. Normally, bacteria are not present in milk, and their presence in milk is evidence of introduction from outside sources.

2. The bacteria found in milk are of the lactic acid forms, germs of putrefaction and a group of miscellaneous types.

3. The presence of lactic acid bacteria, in large numbers, signifies that the milk has not received the proper care in its handling and transportation, to the consumer.

4. The presence in milk of a large number of bacteria of miscellaneous types or of the putrefactive type is indicative of great contamination from the source of production.

5. Preservatives in milk, aside from their chemical action in the stomach interfering with digestion, serve as a shield to the careless and unclean methods of the producer in his handling of the milk, thereby enabling him to deceive his patrons.

6. While pasteurization limits the multiplication of bacteria in milk, if the milk is produced under proper conditions (cleanliness) and receives the proper care in its subsequent handling (cleanliness and maintainance at a low degree of temperature) it will not be necessary to pasteurize milk.

7. The number of germs in milk is dependent on three factors, the care in the dairy, the care in transportation and the degree of temperature at which the milk is maintained. It lies in the hands of the producer to furnish milk to the consumer, which has a low bacterial content, if he will exercise the proper care in the production and handling of the milk.

8. Bacteriology gives us definite knowledge concerning milk contamination, such as the number of germs, the types, etc., and from this data we are enabled to judge of the purity and cleanliness of the source of the milk supply.

Some Practical Results of the Study of Bacteria in Milk, to the Producer and Consumer.

J. K. P. Hawks: We have listened to this very entertaining and instructive paper of Dr. Noble with a great deal of interest. He has told us many things which no doubt are either new to us, or at least have never before been brought so forcibly to our attention. And I suspect some of the pictures have had the effect of alarming some of us. And we have some reason for uneasiness if not alarm. These pictures have demonstrated to us, as could have been done by no other method, that bacteria are real things, and not creatures of the imagination.

That they have power for evil, is also not to be gainsaid. The mortality statistics of our cities prove without a shadow of a doubt, that the vast majority of infant deaths are due to intestinal troubles induced by bacteria in milk, which constitutes the children's food, and that with the improvement of the milk supply, the infant mortality decreases in direct proportion. The cry to save the babies is not all pure fad, nor is it newspaper advertising. He who gives a drink of pure milk to one of these little ones in the name of humanity, is as worthy of Divine approbation, as he who gives the cup of cold water in the Master's name.

The question we have now to consider, is the practical results of all this study and investigation. Seeing that certain bacteria in milk are very harmful, being the outcome of contamination and unsanitary methods, how is the dairyman to eliminate them, and how is the consumer to know that he is getting wholesome milk?

Let us first take up the question from the standpoint of the producer. He is expected to furnish his customer with clean wholesome milk. It is not enough that the milk be of the right chemical composition, namely 3% or more of butter-fat or cream, 12% or more of total nutritional solids, and no added material, but we must be assured that it is free from bacterial impurities as well. Until the careful study of the lower forms of life, and the demonstration of how much they have to do with life's affairs, with its sickness, and its health, and with its various processes, compliance with this chemical standard was all that was required. This is still insisted upon, and is required by law, but in addition to this, milk must now be clean to a sanitary degree. The dairyman, if he is alive to the requirements of the present, directs his energies, not only to the production of milk which is up to the chemical standard, but to the production of clean milk.

There are three methods, by means of which the number of bacteria in milk may be reduced, all of which have been practiced, in one or more instances, in our city.

First. By the use of chemical antiseptics or germicides. This effectually stops the growth of the germs. Milk so treated will not sour readily, indeed it sometimes cannot be made to sour at all. A bottle of it sold on the streets of Bloomington this past summer, stood for four or five days, in my office without souring. This is an efficient method, from the standpoint of the producer who has lost his conscience, because he is enabled to take dirty, contaminated milk, which would sour in a few hours, and by adding a small amount of alleged harmless Preservaline, or other preparation, is enabled to deliver sweet milk to his customers. But the customer gets some things he did not pay for, filth, dust and chemical poisons, which were produced by the growing bacteria, before the preservative put an end to their activities, or a milk which is pickled and embalmed, by an early addition of the preservative, which has fixed and changed the condition of the milk, and made it insufficient or harmful for the human stomach. Not only have preservatives been discovered time and again in Bloomington milk but one at least of the culprits, has confessed to its use.

Second. By treating the milk so that the contained bacteria are killed by heat. These processes produce milk termed variously as Sterilized milk, Pasteurized milk, etc., according to the method, and the degree of heat to which it is subjected. This method is very valuable in improving milk which is apt to be contaminated, or which has been shipped for a considerable distance, before being delivered to the consumer. Pasteurized milk is good, and does very well if it is impossible to obtain milk which is produced carefully, and is clean. In our large cities Pasteurizing plants have been established, and are doing a most beneficent work especially in improving the milk supply of the poorer classes. However it is a fact of experience, that milk which has been heated sufficiently to kill bacteria, is deprived of some of its nutritional and life giving properties, which make it so valuable a food. This is borne out by the observation that young children fed on these heated milks do not develop the bone and muscle that natural milk produces.

These two methods take the milk, which has been allowed to become foul, and contaminated by dirt, and careless handling, and attempt to convert it into a wholesome product.

The third method, and the one to be strongly recommended, does not attempt to clean up dirty milk, and to kill the growing bacteria, but following the old saw that "An ounce of prevention is worth a pound of cure," endeavors to produce a milk which is clean, pure and free from bacteria. And this is what the better class of dairymen are doing for the public today.

Indeed all this discussion hinges about the fact that milk is probably the most readily contaminated of all our foods, and is sure to become so unless handled with great care. Bacteria multiply in it with great rapidity, and it is very necessary that it should be protected in this regard, especially from those germs which are known to produce disease. No elaborate apparatus is needed for this work. The only requisites are cleanliness, scrupulous and painstaking cleanliness, in every operation from first to last, and the thorough cooling of the milk as soon as drawn, and the maintainance of this low temperature until the milk is delivered to the customer. To assist in carrying out this idea of cleanliness, every detail of the dairy equipment and management must be carefully studied, and everything centered on this one object.

The farm should be one of the best obtainable. The idea that any rough patch of timber land, overgrown with underbrush, and filled with cockleburrs and thistles is good enough for pasture will have to be discarded, if high grade cattle and good milk are to be produced. Pasture with good grass, plenty of pure, clean water and sufficient shade are essential for good results.

In the production of good milk, no one thing is of more importance than that the cows be

kept out of the mud. Many yards, into which dairy cows are turned every day for exercise, are knee deep in mud and manure, in winter and spring, if not during the entire year.

The yard should slope gently from the barn and be well tiled, and in addition should be paved with gravel or cinders, so that it will form a smooth hard surface that will not readily cut up. The entire yard must be kept clean and free from manure and other filth. All manure should be removed every day, and to at least a distance of 100 feet. No hog pen should be allowed within 200 feet of the barn or yard, as the odors are readily absorbed by the milk and decrease its value. Flies are a fruitful source of contamination, and are sure to be present in swarms if the barns are not kept exceptionally clean. They annoy the cattle, and worst of all they carry dirt and bacterial contamination and are liable to deposit it where it can infect the milk. Recent investigations seem to show that various diseases and typhoid fever in particular may be propagated in this manner.

The cow stables must be light, well ventilated and clean. The day of the old cow shed has departed if we want good milk. The building need not be extravagantly expensive, but it should be light, dry and well ventilated. The things most universally lacking, or inadequately supplied in dairy barns, are light and pure air. The exact number of cubic feet of air space per cow is not of so much importance, if some good system of ventilation is adopted, which provides for a change and a constant supply of fresh air from the outside. The ceiling above the stalls must be tight, so that all dust and refuse from the hay mow shall be excluded.

The interior of the barn ought to be whitewashed at least once a year. Whitewash is one of the cheapest and most efficient of disinfectants and deodorants. It absorbs the odors of the stable, and does not give them up later as the natural wood does.

A cement floor is the most sanitary, but has the disadvantages of being cold in winter, and of causing the cows to slip.

It is of importance that the floors of the stalls or the platforms on which the cows stand, should be of the proper length; if too short the cows cannot lie down in comfort, if too long they become soiled by the droppings, which fall on the rear of the platforms. This point is considered of so much importance by dairy experts that some particularly complete stables are supplied with adjustable platforms, some that they may be suited to the individual cows.

The gutter at the rear should be open so that it can be readily cleaned, and the stalls and gutter should be cleaned at least once a day, but always at least an hour before milking time, so that any dust may have a chance to settle.

None but good cows, and those in the best of health should be used as milk producers. The herd of the University of Illinois consists largely of Holstein-Friesians, Jerseys, Guernseys, and Ayreshires. While it is not absolutely essential that the cattle be of these aristocratic breeds, yet cows should be bred as milk producers with as great care as are beef cattle. Tuberculosis in a herd is a menace to public health, and should be eliminated by careful veterinary inspection and an occasional tuberculin test. Disease of the udder or any fever should unfit the sufferer for service as a milk producer.

The feed of the cows is important. Sudden changes, especially to green feed, are to be avoided, as the digestive system of the animals is apt to become deranged, and the milk suffers as a consequence.

The cows must be kept clean. Dirt on udder, or flank, or tail is a frequent source of contamination. The tail should be clipped so as to clear the ground, and the long hairs about the belly trimmed. The udder should be washed thoroughly before milking, for every particle of dirt and filth, which gets into the milk, conveys bacteria which multiply rapidly. After cleansing, the cows should not be permitted to lie down until the milking process is over.

The milkers as well as the cows must be healthy. A milker with sores on his hands is as dangerous as a cow with an infected udder. More than one epidemic of scarlet fever and diphtheria has been traced to boys milking, before they had completely recovered from one or the other of these diseases. Clean, white wash clothing should be worn, and kept clean. The milker's hands should be washed thoroughly with soap, water, and brush before he begins, but should be kept as dry as possible during the milking process.

All vessels and other utensils used in the milking or in handling the milk should be of glass, metal, or glazed earthenware, and must be kept absolutely clean and should be cleansed after using, by being washed with hot water, soap, and soda solution, and then sterilized with live steam or boiling water, for twenty minutes. The bottles or cans when returned from the consumer must be washed and sterilized as just described. The practice of bottling milk on the street from a can into bottles just collected from customers, is most strongly to be condemned, and should be punished by severe penalties. I have seen this very thing done on the dusty streets of Bloomington, with the wind blowing 40 miles an hour, and raising clouds of dust. This same dairy puts formaldehyde in the milk.

As soon as drawn the milk should be removed to the cooling room, which should be at some distance from the stable, and there aerated and cooled. This is done by setting the cans in a tank of water, or by passing the milk over a cooler. The sooner the milk is cooled and the lower the temperature the better. Bacteria which get into the milk during the milking, develop very rapidly at body temperature, but if the milk is cooled to 60 F., they develop very slowly, and to 40 F. the development is entirely suspended. Milk thus cooled and then bottled should remain sweet for a considerable length of time.

The bottled milk should be transported as rapidly as possible to the consumer, and the temperature should not be allowed to arise

above 50 F. at any point in the transportation. Milk which is produced under conditions such as have just been described is clean milk. It costs more to produce such milk, and it should command a higher price than the ordinary kind. There should be a demand for such a product, and the intelligent public should be willing to pay an advanced price for it.

I wish to say a few words about certified milk. This is simply milk which is produced under hygienic and sanitary conditions. The dairy, and the preparation of the milk, are examined by inspectors, and the milk subjected to chemical and bacterial examinations. If the dairy methods are found to be correct, and the product shows a high degree of chemical and bacteriological purity, the dairy is given a certificate, stating the findings of the inspectors. This certificate allows the dairy to advertise its wares as certified milk and cream. Such inspection is entirely voluntary on the part of the dairy, and the expense of the inspection and certificate is borne by it. As a result the product is enabled to command a higher price than ordinary milk. Real certified milk is clean milk, and Bloomington should have at least one dairy with enterprise enough to produce it.

There is another side to the milk question. The trouble does not lie wholly with the producer (the consumer has some duties and responsibilities as well). The public generally gets what it demands, and is willing to pay for. The vast majority of people fail to discriminate between good and bad milk. If it is sweet when delivered, and does not contain so much dirt that it is plainly visible to the eye, they make no complaint. Again, milk may be delivered in good condition and at a low temperature, but if allowed to stand in a hot kitchen or on a sunny back porch for an indefinite period, the milk man can hardly be held responsible if it sours quickly.

The medical profession understands the need of clean milk, as no other class of citizens does, and if the members of the McLean County Medical Society would take it more systematically to heart, and do more missionary work among our patients, as we visit them from day to day, the general public might be gradually educated to recognize the necessity of an improvement in the milk supply. When an educated public sentiment demands and insists on having good milk, it will be forthcoming, and not until then.

An efficient municipal health department, if backed by sufficient ordinances, can do much by a few necessary exposures and prosecutions, and by constantly inspecting dairies, and examining the milk furnished. The moral effect of knowing that he is being watched, is a great stimulation to the average dairyman to improve his methods.

As an instance of what an energetic health department can do if it tries and is given the means, I would like to call attention to the annual report of the Board of Health of Montclair, N. J. It is a pamphlet of 55 pages and contains among other things, a report of the water supply, and ice supply, both of which are examined chemically, and bacteriologically every month in the year. The plumbing and gas fitting are subject to inspection and condemnation. Measures are taken for the extermination of mosquitoes, which are now known to convey malarial contagion.

But the most significant feature of the report is the 21 pages devoted to the milk supply. After an introduction on general conditions and improvements secured, the report takes up in detail the 27 dairies in the town by name. It gives the results of the numerous chemical bacteriological, and temperature tests, made during the year, and follows with a brief but explicit summary of conditions and recommendations. Let me quote a few:

"Mr. C. has apparently made an honest effort this year to conduct his dairy in a careful manner and has to a large measure succeeded. The milk is of good quality, but at times the bacteria are still somewhat high."

"A. S. While the dairyman's barn is cleaner than it was last year, it cannot be commended. The analysis of the sample of Aug. 24, 1909, shows that it was below grade; the milk was very dirty and there is no apparent reason why it should be sold in town."

"Mr. F. has delivered milk of fair nutrient quality, which has been consistent in having plenty of dirt and bacteria in nearly every sample."

"W. H. This excellent supply is raised on the farm of W. H. H., of Richfield, and can always be relied upon to be pure and of good quality."

This report is worthy of most careful study, and if Bloomington could produce such a document, this committee would consider its labors rewarded and its services no longer required.

One reason why the consumer is to blame for the quality of the milk is because he wishes his milk delivered early in the morning. He prefers it in glass bottles, and wants the cream separated from the skim milk, so that it can be readily poured off, and used for his breakfast coffee and oatmeal. This means that he must use milk which was prepared the day before. He thinks he is getting morning's milk, because it is delivered in the morning, and the dealer, probably agrees with him in his delusion. Whereas the facts in the case are that he is using yesterday's milk, which has probably been kept over night in some milk depot, which too frequently is also a stable. It would be much better to have the milk delivered during the day and placed in the clean refrigerator of the consumer, for use the following morning. But then the consumer would know that he was getting yesterday's milk, and would not be satisfied.

Another reason why the consumer is responsible for the poor milk is this: Suppose A. establishes a model dairy, his cows are clean, his yard and stables are sanitary, he insists that his milkers and handlers take the proper precautions to prevent contamination, and as a re-

sult furnishes a good, clean milk. B. runs a slip-shod dairy, and furnishes a milk which looks as good as A's, but which in reality is much inferior. A. finds that his expenses are considerably greater than B's., yet if he charges a cent more a quart, to make up for this, he finds his customers going across the street to B. This is the way he is encouraged to produce a good quality of milk.

The consumer has a duty to perform in acquainting himself as to the conditions under which the milk is produced, and he should also know what to expect in the way of good milk. Milk produced under sanitary conditions should contain no sediment. Dirt which settles in the bottom of the receptacle is a sure sign of uncleanliness in the handling. Milk if kept in bottles in which it is delivered and at a temperature of 50° F. or below, should remain sweet for at least 48 hours. Not only should it keep for a reasonable period, but it should not keep too long. Milk which sours within 24 hours contains too many bacteria; milk which keeps over 60 hours probably has too much formaldehyde. The cream should be evident, and in proper amount. This can readily be told approximately. When milk is delivered in quart bottles, the cream line should be about at the place where the bottle begins to taper to the neck, provided there is 4% of fat.

If you want good milk, you should not only insist upon it, but should visit your dairy, inspect the farm, cattle, and barns, and see if they are well-kept and clean. Watch the milkers, see if they wash their hands, and the cows before milking. See if any ice is used about the place. Then inspect the depot and see if the milk and horses are kept together. And after the milk is on your possession, do not fail to keep it in a cool place, free from dirt and odors. If it comes in bottles leave it there until ready to use it.

If you are not satisfied with your own examination, the Health Committee of the Bloomington Business Men's Association, which is also the Health Committee of the McLean County Medical Society, is ready and willing to examine milk submitted to it for this purpose.

To recapitulate:

1. The consumer should examine the milk for himself.

(a) As to sediment.
(b) As to souring too soon.
(c) As to not souring soon enough.
(d) As to the proper treatment of cream. If that is not sufficient, let Health Committee test the sample.

2. The consumer should examine the surroundings and see if the milk is prepared properly.

3. The consumer should handle the milk properly himself.

In this manner, if the public wishes good milk, demands it, is willing to pay for it, and then makes sure that it is furnished, then and not until then, will we obtain milk which is a proper food for the growing child, the sick, the invalid, and the healthy man and woman.

CRAWFORD COUNTY MEDICAL SOCIETY.

Regular meetings are held bi-monthly on the second Thursday. Membership 24.

Officers.

President .....Dr. Frank Dunham, Robinson
Secretary ..... Dr. H. N. Rafferty, Robinson
Treasurer ..... Dr. C. Barlow, Robinson

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The Society held its regular bi-monthly meeting at the office of Drs. Rafferty, in Robinson, on Nov. 10, with President Frank Dunham in the chair.

The members present were Dunham, Fuller, Midgett, Barlow, and T. N. Rafferty. In the absence of the secretary, T. N. Rafferty was appointed secretary pro-tem. The minutes of the previous meeting were read and approved.

Dr. Fuller, as chairman of the committee appointed to make a special report to the State Board of Health, reported no progress, and asked for further time and more explicit information. On motion, the report was received, and the committee was continued.

Dr. G. W. Fuller read a carefully prepared and instructive paper on **Auto-intoxication vs. Malaria.** The paper was well received, and discussed by all present. On motion Dr. Fuller was requested to read his paper again at the next meeting of the society, that the subject might be brought to the attention of more members of the society than were present at this meeting.

Cases were reported by Drs. Midgett, Fuller, and Barlow, followed by a running discussion, in a conversational way, of things generally interesting to medical men, including many important topics.

There being no further business, the society adjourned, to meet at the office of Dr. Firebaugh, on the second Thursday in January, 1905.

ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

Officers.

President ..... L. H. A. Nickerson, Quincy
First Vice Pres ..... John A. Koch, Quincy
Second Vice Pres ..... J. M. Grimes, Camp Point
Secretary ..... Geo. E. Rosenthal, Quincy
Treasurer ..... R. J. Christie, Jr., Quincy
Censors: C. D. Center, Jos. Robbins, S. B. Ashton, Quincy.
Delegate State Society..E. B. Montgomery, Quincy

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The regular monthly meeting of the Adams County Medical Society was held at the Chamber of Commerce, Nov. 14th, President Nickerson in the chair. Drs. E. G. Hedrick of Loraine and Geo. A. Gilbert of Adams, were elected to membership.

Those present were Drs. Ashton, Brenner, Byers, Burch, Beirne, Center, Christie, Collins,

Gill, Gilliland, Hatch, Hart, Knapheide, Koch, Knapp, Knox, Liesen, Montgomery, Nickerson, Pfeiffer, Reticker, Robbins, Rice, Rosenthal, Sigsbee, Tull, Vasen, Wells, Williams, W. W., Williams, G. G., and Zimmerman.

The following paper on **Ptomaine Poisoning** was presented by Dr. F. E. Nichols at the October meeting:

Ptomaine Poisoning.

Dr. F. E. Nichols, Quincy: The complexity of the conditions governing the formation and action of ptomaines upon the human system, makes it exceedingly difficult to treat of in a paper of this character and with its limitations. A large number of ptomaines have been isolated which show a very wide variation in their toxic qualities; ranging from the most virulent type to the almost inoxious diamaines. Whether this variation is due to the action of different varieties of bacteria, or to the action of the same bacteria on different materials, or whether it is due to varied conditions under which the action takes place is very difficult to determine. Added to these difficulties are the idiosyncrasies of the individual.

Clinically we are called upon to face this many sided problem with but too meagre data to govern our actions in a given case, and often with no symptomatic warning early enough to enable us to remove the poison while it is yet within our reach; for frequently the manifestations are so slight, until the poison has entered the blood, that no alarm is given till the destructive process is well under way.

The labratory work upon this subject has been splendidly done. It is, however, desirable that more clinical data be gathered, for it is obviously from this source that we must look for suggestions as to the best means of preventing and combating the effects of these poisons. I wish, therefore, to briefly report a few of the cases which have come under my immediate observation, with the conclusions at which I have arrived regarding the formation and introduction into the system of these poisons.

Our time is too limited for an exhaustive report upon these several cases here presented, but I have sought to give the most salient points of each without pretention to a complete minute report of them.

Case 1. Girl, aged ten years, rather delicate with weak digestion; ate sandwiches made of prepared ham, both for dinner and supper at a June picnic. Was indisposed the next day and vomited freely the following night. Had very free movement of the bowels. This was not very unusual for her after slight indiscretion in diet, and little was thought of it. The next day she was somewhat drowsy and slept some during the day. She insisted that she was not sick but tired from the days outing and a wakeful night. She had a slight sore throat and a very mild milliary rash noticeable in the folds of her body. The following night she was very restless and talked in her sleep. At seven o'clock in the morning she arose, went to the bath room in the ordinary way but upon her return it was noticed that she seemed dazed; did not answer when spoken to and did not notice any thing. She passed rapidly into coma and was dead within an hour. Immediately after death she became very much discolorated showing marked hypostatic tendency.

Case 2. Girl twelve years old ate of the same sandwiches for dinner only. Bowels inactive. Was taken, on the third day, with vomiting and diarrhoea, with great prostration, sore throat and slight cutaneous rash and great restlessness. She reacted very promptly and was fully recovered in a week.

Case 3. Boy four years old ate of boiled ham. Vomited freely on the second day. Free bowel movement, slight sore throat and rash with extreme prostration lasting a few hours. Responded promptly to treatment and was well in a few days.

Case 4. Girl aged twelve, delicate with poor digestion and sluggish circulation had repeated attacks of which the following is typical. Came home from school one winter evening severely chilled and fatigued; ate a hearty evening dinner and was taken with vomiting the next morning; bowels moved freely; skin eruption similar to bold hives; sore throat; cervical glands swollen and very sensitive; temperature 102°. Vomiting continued for two weeks and no more bowel movement for fifteen days; extreme weakness and exhaustion. During the two weeks the temperature ranged near normal, pulse was slightly accelerated; stomach rejected everything; marked ptyalism. Gradual improvement followed each attack until normal health was restored. With careful supervision of the diet, discontinuing the evening dinner and with precaution about eating while nervous or fatigued this child has made a good recovery with no more attacks.

Case 5. Girl aged eight, returned from school one evening nervous and tired, ate a hearty evening dinner including roast meats. Vomited toward morning, bowels moved once loosely and no more for two weeks; nausea and vomiting continuous; bold hives and slight sore throat; puffy face; slight fever, anorexia, great prostration, albuminuria and tube casts. Gradual improvement followed and after two weeks bowels moved and all other symptoms subsided.

Case 6. Boy three years old; delicate, very emotional ate ice cream after a hearty dinner and again about three hours later. Vomited before morning; had sore throat and slight rash. As in all of these cases, prompt eliminative treatment was vigorously begun and the patient improved, was able to be about the house but the cervical glands became very much enlarged and tender causing stiffness of the neck. His condition slowly improved for about ten days when he took cold by sleeping

in a draft. Symptoms of poisoning all re urned with increased severity. Glandular involvement became general, fever rose slightly, restlessness returned, face began to swell, subconjunctival hemorrhage followed rapidly by ecchymosis and extensive infiltration of all subcutaneous tissues about the face and head and spot on one foot. Death followed about thirty-six hours after taking cold. There was no pain or suffering in any of these cases beyond the inconvenience of vomiting and soreness resulting from it. Tempera ures were always moderate. Heart action weakened and rapid. In the fatal cases a real blood poisoning seemed to exist i. e., the blood became disintegrated, as in case of snake poisoning, producing great depression and cutaneous manifestations.

From the study of these cases, of which the foregoing report is all together too abbreviated, I have formed the following conclusions:

1st. That ptomaines, which are the product of putrefactive action of saprophytic bacteria upon proteid substances, are formed under varied circumstances and reach the system in mild or deadly doses as the circumstances of the physiological condition of the individual may determine.

2d. That ptomaines are formed outside of the body or in the alimentary tract; or partly outside and partly within the system.

3d. That two persons may partake of the same food and one be fatally poisoned while the other remains unharmed.

4th. That the formation of ptomaines within the body depends upon a variety of conditions which governs the vigor and promptness of the digestive function. Putrefaction begins very promptly in all nitrogenous substances whenever a temperature is maintained at something near 100° F. unless some preservative agent be present. As in case 1, the ham used had been boiled whole, being very thick, the process of refrigeration was retarded by the summer heat so that a temperature favorable to the growth of putrefactive bacteria was thus maintained for a considerable period of time. In addition to this, the sandwiches af er being made of this meat were kept at an elevated temperature nearly all day as the baskets could not be fully protected from the heat of the sun. Therefore, doubtless putrefaction changes began before the meat was eaten. Of the two children poisoned at this time, one only ate of the sandwiches at noon and was not seriously effected; being of a strong and vigorous constitution and sanguine temperament the putrefactive process was promptly checked by coming in contact with normal gastric juice in the stomach thus preventing the farther formation of ptomaines within the system. The other child, not only ate more freely of the meat, but being more delicate she was more effected by the fatigue of the days sports; her gastric digestion was, therefore, more tardy permitting farther putrefaction of the food in the alimentary tract until the deadly dose was generated. Others partook of the same food and were unharmed. There is, no doubt, a great difference of susceptibility to poisons, in different individuals. But what constitutes that difference? Is it not due to the difference in the power of physiological resistance? Bacterial development usually begins from foci; and it is possible that these two children may have gotten the principal part of the poison formed in all the meat. But I incline to the belief that the difference in results was due to the prompt or tardy action of the gastric digestion in the different individuals.

It has been demonstrated that no putrefaction can take place in the presence of normal gastric juice; that it will not only prevent pu refaction but will arrest it when already begun. But proteids decay very rapidly when mixed with pancreatic juice. So if for any reason the gastric function is interfered with the food passes into the intestines unchanged where putrefaction can freely take place and its products are readily absorbed by the lymphatics.

It is well known that nervous excitement, emotions or fatigue greatly influences the secretion of both saliva and gastric juice. Therefore, food ingested under such conditions, is not properly acted upon by these essential digestive agencies; with results as above referred to. This was manifest in cases 1, 4 and 5 of the above report.

By reducing gastric juice to a temperature much below 100° F. its action is suspended and such reduction in temperature of the stomach prevents farther secretion by the peptic and acid glands. Thus in case 6 chilling the stomach of the delicate child, with ice cream, after eating a hearty meal resulted disastrously. The lymphatics, taking up the poison, became involved and the contest with the physiological resistance of the system continued for some days, with a prospect of the poison being eliminated until the little fellow took cold which turned the tide against him.

So, I think, the position is tenable that whatever conditions favor the putrefaction of proteids; whether it be before they are ingested or after; whether it be from physical cause or lack of physiological function; the results are the same and the effect upon the system depends wholly upon the character and quantity of the ptomaines present and the facility with which they may be eliminated.

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Chicago Medical Society.

The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building. Membership 1512,

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DECEMBER, 1904.

MEETING OF OCTOBER 12, 1904.

At the regular meeting of the Chicago Medical Society held October 12, Dr. Thomas read a paper entitled **The Scientific Struggle to Cure Pulmonary Tuberculosis in the United States Since 1882.**—See page 544. Dr. J. W. Pettit, of Ottawa, presented a paper entitled **Some Practical Phases of the Tuberculosis Question.**—See page 601. These papers were discussed as follows:

Dr. Robt. H. Babcock: I have only words of commendation for these papers. Dr. Thomas' paper emphasized the great value of the "open air" treatment of pulmonary tuberculosis as compared with any and all other methods, and I trust that it will be a means of spreading the employment of this treatment among all who read it.

Dr. Pettit's paper emphasized the great value of sanatorium treatment, a form of treatment which needs to be spread among the laity as well as the profession. I should be sorry, however, if Dr. Pettit's paper led physicians not to make an endeavor to carry out modern sanatorium treatment, as far as possible, with their patients at home. There are difficulties in the way, as he says, but many times these difficulties can be overcome if the physician will only take the pains and spend the time necessary.

Dr. Mix's paper emphasizes the importance of infection as contrasted with hereditary predisposition. I agree with him on this point. I agree with him when he says that when we are exposed to infection we are all liable to tuberculosis, but if Dr. Mix means to say that under the same conditions we are all equally liable to tuberculosis, then, I cannot agree with him. I think there is such a thing as greater vulnerability to the action of the bacillus on the part of some more than others, and just so far I accept the doctrine of hereditary predisposition.

But in spreading the great truth that tuberculosis is spread by infection the paper undoubtedly will do great good.

Dr. Frank Billings: I concur in what the previous speakers said, I am glad to have heard these papers. Dr. Mix's paper is one we must all believe in—the general statements, and Dr. Babcock has mentioned the only exception I would make. Certainly we are not all as equally susceptible to tuberculosis and to many other infections. In spite of the fact that the argument advanced by Dr. Mix and other writers on the same subject that the tissue of the body is not more vulnerable even if one's parents or progenitors suffered from tuberculosis, the statement is not to be wholly accepted.

We all believe that there is a susceptibility in inheritance in certain tissues that render us more susceptible to certain diseases in future life. There is no reason why we should not inherit a tissue that is more susceptible to some form of infection, tubercular included. We must know more about these things. Of what that process is in the body which in tuberculosis has a tendency to fibrosis and to healing before we can discuss this question fully of resistance or vulnerability to tuberculosis.

Dr. Mix cited several cases where, possibly without a proper analysis heredity could have been excluded. We all have cases in which investigation may show that infection played the only role. At the same time, we had cases where infection was impossible and where heredity must have been a factor, if not the only one.

I was brought up in the country on a farm, in a very sparsely settled district. My parents adopted a girl into our family whose mother died of tuberculosis, and whose father died of cholera. That girl grew up in our family among seven other children. We did not go to large gatherings. We knew our neighbors intimately because of their fewness rather than because of their nearness. We went to the district school, a building so well ventilated that we had to wear fit clothing to keep warm. And we lived in a farm house with every comfort that a farm house could give in those early days. That girl died of tuberculosis at the age of eighteen, and it was the only caes of tuberculosis in the

county that I knew of in all the years of my boyhood. There was no other case with which that girl could have come in contact. She came into our family at the age of six.

And I know of many other similar cases where it is difficult to say that the individual came in contact with the disease in any way.

As to the treatment as enumerated by Dr. Thomas, we all agree with him that the evolution of the treatment of tuberculosis has resulted in the so-called hygienic treatment. At the same time the failure to appreciate all that drugs have done for us and also the possible cause of failure in many instances is the tendency among physicians to treat the disease and not the individual. One would not say dogmatically that there is nothing in creosote preparations, although that, perhaps, is true as they are used by most of us. We are not treating the individual. A diagnosis of tuberculosis is made, and without any consideration of the individuals digestive apparatus some form of creosote is given. So with all other drugs.

We examine a case and are fully impressed with the value of home treatment, and without any consideration of the individual's environment, we institute the home treatment. In another case, without any regard to the peculiarity of the patient, we tell him to go to a sanatorium; or without regard for his heart or blood vessels, we sent him to a heighth in Colorado. The thing that makes it difficult for the people to understand us as physicians is that we are always treating a disease. What we must do is to treat individuals. Certain individuals can take home treatment; some sanatorium treatment; some must go to California; some to Colorado. When we act rationally, we will have less failures and people will stand with us in our fight.

Dr. Wm. A. Evans: I propose to speak to just two points. The first of these is one suggested by one of the essayists. It is the necessity of early diagnosis in the treatment of tuberculosis. There is abundant evidence that tuberculosis at certain stages is an easily curable disease, and there is equally abundant evidence that tuberculosis in other stages is not a curable disease.

There are diagnostic means that are within our reach; that are known to the profession at large and are used by them. The one I wish to advocate particularly at this time is the use of tuberculin. I do not believe that there is any adequate proof that tuberculin is dangerous. The statements to the effect that tuberculin is dangerous are fragmentary and are usually based on very insufficient data. The question of the danger of tuberculosis is, perhaps, set finally at rest by articles in the current volume of the Journal of Medical Research where histologic and biologic studies of tubercle nodules in the eye have been made by Trudeau, Baldwin and Kingham.

I believe that this agent is open to some objection on the ground of reliability, but there is no question that it is more reliable in the earlier stages of tuberculosis than is any other diagnostic method or any combination of diagnostic methods. There is a certain percentage of error, it is true, but there is a larger percentage of error in physical examination, in sputum examination, or in any method of examination.

The second point to which I wish to speak is this: It is said in fable that the wolf on one occasion was disposed to boast of the number of her brood, to which the lion replied, "I have but one, but that is a lion." Where there is a multiplicity of cures, there is no specific cure. We witnessed how the cures for malaria faded when quinine came into use, and how cures for diphtheria faded when antitoxin was discovered. Cure by fibrosis is not ideal.

I do not believe that we have gained anything particularly by the use of vegetable or mineral remedies or other medicinal agents in the cure of tuberculosis.

There is no reason in the clinical history of tuberculosis or in the pathology of the disease or in the biology of the bacillus to indicate any probability that an antitoxin for tuberculosis is a possibility. I believe that effort in this direction will certainly prove futile. I believe, however, that along the line of treatment with organic substances something may come. There may be a good deal in the combat between bacteria as a means of treating tuberculosis. It has been proposed to inoculate tubercular patients with Bacillus Mycoides but a recent report of Kinghorns, published in the August number of the Journal of Medical Research is to the effect that this bacterial combat is not of service. That, however, simply applies to Bacillus Mycoides.

I believe we should keep our minds open; our attitude fair toward remedies for tuberculosis. It is true that all striving so far has amounted to very little, but that does not by any means, argue that the result of further striving will not be a cure for Tuberculosis.

Dr. J. M. Patton: There are two points in Dr. Mix' paper to which I would like to direct your attention. One is that the individual is to be regarded as a stable factor in relation to infection. I do not believe that we can accept that statement in its full value. We have to take into consideration what is meant by heredity and predisposition: Predisposition is not heredity, although it may be hereditary. Heredity has nothing to do directly with predisposition.

By heredity we mean transmission in two ways: through the germ or through the placenta. It has been demonstrated that in the seminal fluid of tuberculosis patients, in certain instances, we can find the tubercule bacillus, and while transmission can occur in this way, it occurs but rarely.

Transmission through the ovum has not been demonstrated positively. On the other hand, transmission through placental influences has been demonstrated in over twenty instances.

By predisposition we mean that certain inherent modifications of the constitution of an individual may render him more liable to some illness. Under certain conditions it is easy to see why some of these modifications of the

normal physical structure may render people liable to tuberculosis. So that, I believe, it is right to speak of an hereditary tendency, although we cannot specify in just what that tendency resides; yet it should be kept distinct from heredity.

Another point was the necessity of assuming that a child that does not develop tuberculosis within a given time is simply an example of the efficiency of protection against infection, and in no way connected, directly or indirectly, with hereditary influences. If you protect a child from all possibility of infection, you destroy the only admitted means we have of producing the conditions in the child that would show that there is a predisposition. Certain children taken from their parents and protected against tuberculosis have not developed it as long as the protection was there. But after it is removed, they develop tuberculosis as soon as brought in contact with the outside world.

The point mentioned by Dr. Evans, with regard to the diagnosis of tuberculosis, I can not concur in; that is, the absence of danger in the use of tuberculin as a diagnostic agent. I do not intend to advance pathologic grounds for this objection, but when we use tuberculin very carefully as a diagnostic agent and see the immediate spreading of what apparently was an old focus of disease accompanied by rapid rise in temperature, etc., it makes us stop to think whether we are justified in subjecting a patient to such a procedure. In consideration of the fact that tuberculin is not absolutely sure as a diagnostic agent, and that in some cases we do run a risk of lighting up an old process, I question very much whether a man who is conscientious can submit a patient to such a risk.

Dr. I. H. Hirschfeld: For over 15 years I have treated all patients suffering from chronic diseases, with systematic out-of-door life and graduated exercises, and I wish to report my experience with the patients suffering from tuberculosis of the respiratory tract, as it may be of interest, the results having been obtained in Sanitariums located in Milwaukee and near Chicago. Our satisfactory results were over 80 per cent. Temperature became normal or subnormal, cough disappeared or at least decreased, tubercular bacilli disappeared or decreased in number, and the patient gained in weight. This decided improvement was generally attained inside of three months.

Some of these patients have since died, others underwent a similar course of treatment, but the majority remained free from symptoms. Permanent cures would have been more numerous if patients had kept up the regime longer. Some could not do so because they had to go back to work, and others because their physicians did not appreciate the principle for chronic disease, chronic treatment, and simply vacillated from one advice and one prescription to another handling the patient like an acute case where perfect recovery could have followed inside of a few weeks. In other cases, the disease would have been curable, had the patient not relapsed into his former careless habits.

Our treatment consists of:

Out-of-door rest with breathing exercises and chest development, and later on, graduated general exercise. The breathing exercises were regulated in frequency according to the case, and suspended if there was any hemorrhage. (Except if especially requested by the physician) the patient slept in doors at night with windows open.

2. Mixed diet with plenty of food that is apt to increase the weight and regulate the bowels.

3. The patient received an average of thirty grams of benzosol per week. Each patient gets one ounce to be used first inside of twelve days, then inside of ten days, and beginning from the third period of seven days.

I never saw any undesirable symptoms from this large doses of benzosal, and am under the impression that the antiseptic condition of the intestines has a decided influence on the general qualitative nutrition and increases the resisting power against new infection.

4. I had all the facilities for using hydrotherapy, but never used it except when the temperature was over 103°.

I found that the out-of-door life with the less septic condition of the bowels was sufficient to protect the patient against the influence of the change of weather and to bring the fever down to normal or sub-normal, if that was possible by any means.

I wish to add a few words about the prevention of tuberculosis. We all agree that tuberculosis can be symptomatically cured in spite that we begin the treatment when the patients' sputum is full of bacilli, and we know that the tubercle bacilli do not produce any antibodies that would destroy their own virulence. That means that we cure the patient by increasing the resisting power and by changing the quality of the cell so that it does not offer the same soil for existence and growth of the tubercle bacillus. It is difficult at least in the densely populated districts to destroy the sputum, and we can solve the problem of preventing tuberculosis to a great degree by teaching personal hygiene in schools. Tubercle bacilli attack in preference the poorly ventilated parts of the lung, and by practicing breathing and teaching chest development in schools, during a few minutes intermission between the lessons, we eliminate the poorly ventilated parts, and so decrease the danger of infection.

Another increased opportunity for tubercular infection is a subacute inflammation of the respiratory tract. These can be decreased in number by hardening the individual against these conditions, a thing to be done easily by cool or cold sponge baths and hygiene of mouth and pharynx.

I have had the opportunity to see thousands of patients who, under general unhygienic conditions, used hydrotherapy, and I never saw a case of pneumonia, as long as they used cold water treatment, and as mentioned, it is not necessary to have any com-

plicated apparatus,—a sponge bath in the morning is excellent prevention against catarrhal and inflammatory conditions of the respiratory tract, if at the same time breathing exercises are done, and the intestinal tract is kept clean.

I favor the destruction of tubercle bacilli by all possible means, and people with weakened organism or hereditary predisposition for tuberculosis should avoid contact with tubercular individuals. For otherwise healthy people, their own personal hygiene is more effective and human, as to banish every person with a suspicious cough as dangerous for the general welfare.

Dr. Richard M. Fletcher, Jr.: I have enjoyed listening to the very excellent and instructive papers and the discussion that has followed. There is one phase of this subject that I wish to discuss briefly, and I think it is in line with all that has been said by Dr. Thomas and the other gentlemen relative to the benefits to be derived from the open air and outdoor life in the treatment of tuberculosis, as well as being germane to that phase of subject so ably discussed by Dr. Mix.

Many of the cases of tuberculosis that have been attributed to an hereditary predisposition should properly have been attributed to an hereditary prejudice and superstition. Those of us who have visited the island of Cuba or who have studied the situation on the island are in a position to fully apreciate what can be accomplished by the proper application and strict enforcement of the laws of modern hygiene and sanitary science.

The Cuban has inherited a violent prejudice against night air. This prejudice among the poorer class, and it is this class that I shall speak of, amounts to a superstition. While the native of Cuba and other tropical countries will go about without any covering for the head in the hottest part of the day, he crawls into his hole after sunset. You are familiar with the dwellings of the poorer class in all countries. In Cuba this dwelling is one, or at best two rooms, with usually one entrance. After nightfall the families gather in this fouled nest and close every crack and crevice to keep out the evil night air. Is it any wonder that they contract tuberculosis and leprosy? Dr. Finlay, the distinguished Chief of the Sanitary Department of the Island, told me last Spring that the condition with regard to tuberculosis in Havana and most of the towns was entirely satisfactory, but the same could not be said for the outlying districts. The same condition of overcrowding and want of hygienic and sanitary surrounding is true of the Southern Negro. We know what havoc has been wrought in the Negro race by tuberculosis. I claim that this is not an inherited predisposition to the disease but rather an inherited prejudice against all the laws of hygiene and right living. In my opinion ignorance, gross, dense ignorance, prejudice and superstition in any community or in any race of people is vastly a more important etiologic factor in tuberculosis than any hereditary tendency or predisposition.

MEETING OF OCTOBER 19, 1904.

A regular meeting of the Chicago Medical Society was held Wednesday, October 19, at the Public Library. Dr. Evans presented a pathological specimen of **Hanot's Cirrhosis.**

Dr. William A. Evans: Those who arrange the programs are anxious that fresh pathological specimens shall be brought here for demonstration. I have brought down tonight a specimen which, though not of very great interest, is fresh.

A man was admitted to the Cook County Hospital about four days before his death, giving a history of having been sick for two months during which time he had been repeatedly jaundiced. There was some ascites, and an accumulation of fluid in the lower extremities. During the four days he remained in the hospital he ran a temperature generally one degree above normal; his pulse rate ranged from 96 to 120. He had a varying degree of jaundice. At times he was deeply jaundiced, and at other times very much less so. There were some petechiae. He was delirious. There was bile in the urine. Otherwise the urine was negative. There were no other symptoms than those I have detailed except that the heart area was somewhat enlarged, and that during the last day or two of life there was a systolic murmur to be heard at the apex.

Post-mortem examination showed Hanot's cirrhosis of the liver sometimes called hypertrophic cirrhosis. This was responsible for certain changes in the kidney, spleen, heart muscle, and in the pancreas. In looking at the specimen you will find the appearance of the liver varies in different portions. It is not a typical hypertrophic cirrhosis in all of its areas. The liver weighed two thousand grams. The cirrhosis in the left lobe is quite well marked. The increase in interstitial tissue showed very plainly in the specimen some hours after its removal. Notice the lobus Spigelli. You will find the changes there are altogether degenerative in type. There is very little increase in interstitial tissue, but there is a marked breaking-down of the liver cells. There was no obstruction; no gall-stones to be found in any of the ducts or in the gall-bladder.

The disposition of the times is to ascribe all forms of cirrhosis, especially Hanot's cirrhosis and the hypertrophic forms of the disease, to toxic influences resulting largely from bacteria. All recent literature is directed along the line of that explanation rather than alcoholic. I place the specimen on the tray in such a way that you can see the difference between the pathology in the right and left lobes and in the lobus Spigelli.

Dr. Wells then presented a paper on **Diabetes.**

Edward F. Wells, M. D., Chicago: Diabetes is a disease characterized by hyperglycemia and glycosuria, probably due to hypoglycolysis, from insufficiency of the pancreatic internal secretion. Although not a common disorder, it is an important one, and is increasing in prevalence. It increases in frequency, but declines in severity with age. A clear conception of the origin of glucose as found in the

body, together with its various changes and end products, and its excretion, in health and in diabetes is essential to an understanding of alimentary, nervous, renal, supra-renal and, especially, diabetic glycosuria. That diabetes is due to pancreatic disease is rendered probable by the fact that such disease is frequently accompanied by glycosuria; that lesions of the pancreas are found, post-mortem, in a large proportion of diabetics; that extirpation of the pancreas is regularly followed by diabetes. The most significant lesion in diabetes is pancreatic interacinar inflammation and hyaline degeneration.

The symptoms vary with the type of the disease; those which first attract attention are nocturnal dryness of the mouth and throat, increased frequency of urination and excessive thirst. The other well-known symptoms follow. Coma, probably due to oxybutyric acidemia, is often the cause of death in severe cases. Glucose in excess, and the presence of morbid acids, combined with bases, are the most important changes in the blood. These are excreted with the urine, and are specific features. Sugar may be detected in the urine by Haines', the phenyl-hydrazin and other tests, and may be measured by Purdy's or the fermentation tests. Acetone, diacetic acid and oxybutyric acid may be detected by Legal's, Gerhardt's and the polariscope tests, respectively. Diabetes is, broadly speaking, an incurable disease. The severe cases, especially in the young, die in a few months or years; the mild cases, in middle-aged or older persons, which form the vast majority of all cases, live moderately long lives and die of other affections; all die with, comparatively few die from diabetes.

Treatment does not cure the diabetic, yet his proper management is, upon the whole, satisfactory. The treatment is almost exclusively dietetic, and knowledge and appreciation of the fundamental factors of nutrition and waste are essential to its application. Management should begin with the "therapeutic diagnosis," which measures the patient's capacity for carbo-hydrate assimilation. The patient is at once, or gradually, if diacetic acid is present, placed upon a strict anti-diabetic diet, with daily examinations of the 24 hours' urine, until sugar disappears or reaches the lowest point to which it can be brought. Carbo-hydrates, in the form of bread, are now gradually added to the diet until sugar reappears or increases in the urine. From this a moderate proportion of carbohydrate should be deducted, and this will constitute the appropriate diet for the particular case. The therapeutic diagnosis, with readjustment of the diet, should be undertaken two or three times a year. Codeine will only be required in those rare severe cases in which it is clearly demonstrated that it is beneficial. From first to last attention should be given to details, in which the patient should be interested. Well constructed diet lists are useful as a basis for modification to meet individual requirements. As a rule the patient may be allowed to choose from a prescribed list those foods which he fancies, but the attendant should satisfy himself that, with such choice, the diet is properly balanced and that the caloric requirements of the body are more than met. The severe cases will require the most stringent diet, plus an amount of carbo-hydrates, to be carefully estimated in each case, as will reduce the abstraction of glucose from the body tissues to a minimum. Finally, with persistent tact and painstaking attention to details the patient's interest can be maintained throughout, and this is essential to success.

Discussion.

Dr. Arthur R. Elliott: Mr. President and Members of the Society. The class of metabolic diseases, or, as they have sometimes been designated, diseases of obscure origin, is being steadily depleted, and if we are to trust the trend of recent pathological research, the class is about to lose another of its members, namely, diabetes mellitus. As the matter now stands, definite lesions of the pancreas have been found in fifty per cent of cases of diabetes which have come to autopsy, and signs are not lacking that possibly in the near future definite lesions of the pancreas will be connected with a still larger per centage of cases than the fifty per cent which Opie now gives in his work on "Diseases of the Pancreas." Even alimentary glycosuria, about which there has been little contention, is being connected with pancreatic causes by such observations as those of Wille. Under the direction of this observer eight hundred individuals suffering from a great variety of diseases were subjected to the test for alimentary glycosuria. Of the eight hundred, seventy-seven subsequently died and came to autopsy. Fifteen of the cases "posted" had shown a positive reaction to the alimentary test and ten of these were found to have lesions of the pancreas varying in severity from chronic pancreatitis to carcinoma of the gland. Such observations indicate that lowered starch assimilation is something more than a functional disturbance. There is no anatomical reason why we should regard the pancreas with its double connection with the duodenum, as more exempt from bacterial invasion from the bowel, than, for instance, the biliary tract, and, it seems to me, that in the future we may have many of the obscure cases of permanent glycosuria, which have until this time been explained on broad metabolic grounds connected with incipient lesions of the pancreas, the result of chronic infective processes. In this connection the occasional clinical experience of having acute diabetes develop after typhoid fever is suggestive, indicating that the bacillus typhosus has invaded the pancreatic tract and set up more or less active organic changes. The researches of Oser in this connection are interesting. He was able to isolate the bacillus coli communi from the parenchymous juice of cases of chronic pancreatitis. The further we probe this question of relationship between pancreatic disease and diabetes, the more convincing becomes the conclusion that some insufficiency of the pancreatic internal secretion, either in quality or quantity, is the essential cause of diabetes.

Dr. Wells has said that "once a diabetic, always a diabetic," and anyone, who has had much experience in the management of diabetes, can have no different conclusion to record. I have never seen a diabetic who was cured of his glycosuria. This obstinacy, in the face of good endeavor, is certainly the index of an organic background for the disease, and I firmly believe the day will come when we will regard every permanent glycosuria as the outward expression of an organic state, probably of the pancreas, just as we now regard albuminuria no longer as a physiological process, but invariably an expression of some organic change in the kidney. The pathological change may be obscure and hard to demonstrate, but is still present.

I wish to refer to the association of emaciation with the severe type of the disease, so called pancreatic diabetes. Since the days of Lancereaux, who divided diabetes into two classes, lean and fat diabetes, emaciation has been regarded as the classic indication of pancreatic diabetes. Some observers, notably Lepine, Williamson, Hansemann, have recorded instances of undoubted pancreatic diabetes in which there was no emaciation, but the exceptions to the rule are so rare that I feel encouraged to report two cases of this character which have come under my observation in the last year and I shall do so briefly.

The first was a schoolgirl, 21 years of age, who consulted me in April, 1903. In November, 1901, sugar was first discovered in the urine; intense thirst, polyuria, polyphagia and menstrual irregularity being the symptoms at that time. Patient's normal weight is 142, and during the first eighteen months which elapsed after the discovery of the glycosuria she gained eight pounds, attaining a maximum of 150 pounds, in spite of a strict dietary. At the time of consultation with myself, body weight was 148. Patient is of firm musculature; possesses a high color, and well-rounded body curves. In short, looks the picture of health. Symptoms complained of are polyuria; excessive thirst, and appetite; fatigue on exertion; dryness of skin and mucous membranes; numerous small furuncles and troublesome pruritus vulvae. Urine: 82 ounces; sp. gr., 1036; 3% sugar; diacetic acid and acetone present. Patient remained under more or less continuous observation until a few days before her death from diabetic coma in December, 1903. During the intervening eighteen months the glycosuria had fluctuated between 1½ and 3 per cent; acetone and diacetic acid were constant urinary ingredients; betaoxybutyric acid being first positively demonstrated in May, 1903. At no time did the body weight suffer, and at time of death stood at 142. No autopsy was procurable.

Case 2 referred to me by a Chicago confrere, was at time of consultation passing 135 ounces of urine, containing 6 per cent of sugar; traces of acetone, but no diacetic acid. Age, 31. Her normal maximum weight is 160 pounds; weight at time of consultation was reduced to 141. Regulation of the diet caused a rapid elevation of the body weight to 155 pounds. Patient has been under continuous observation for six months. Sugar elimination ranges between one and two per cent on a limited starch diet (100 grams per diem). For past two months acetonaemia has been pronounced, and diaceturia pretty constant. Coma prodromes have once or twice developed. Despite the serious nature of the case and the probability of an early termination, the patient's weight has risen to 158, and she has the appearance of being in excellent health.

There is one more clinical point I would like to refer to in connection with diabetes, namely, the significance of albuminuria in the terminal stage of coma. Albuminuria, as is well known, is a frequent development in the chronic or so-called constitutional type of diabetes, where there is no acidosis. Albuminuria is present in over forty per cent of such cases, and results from organic changes in the kidney, produced by prolonged irritation of the kidney from sugar in the urine. In the acute type of the disease, with acidosis, we do not ordinarily encounter albuminuria until late in the disease, and when it appears it usually is a close precedent of coma. It is associated with casts in the urine, the socalled coma-casts, and a plain trace is usually all that can be demonstrated. A rather striking series of cases in my own experience impressed upon me the importance of this albuminuria which is the result of certain necrotic changes in the tubular epithelium, called the cellular necrosis of Epstein. It means a choked condition of the kidney, and is attended by a certain amount of renal inadequacy which, in the face of acidosis, causes a piling up of the toxins in the blood and precipitates coma. Except in that indirect way, the nephritis has no connection with the coma, unless it prove to be the last straw which breaks the camel's back. The advent of acidosis, or the presence in the urine of acetone, diacetic acid and betaoxybutyric acid, is an imperative indication for change in diet, and I do not think that a practitioner would be rash enough to continue a strict diet in the face of these indications. I believe there should be manifested a much greater liberalism toward diabetic patients than formerly prevailed. When I compare my present treatment of these cases with what it was ten years ago, I am surprised at the better results I get now, and the greater degree of content with which patients follow the treatment. Every diabetic can be given a small amount of starch, and it is only common clinical wisdom to let every case of diabetes have as much starch as can be assimilated.

Dr. J. B. Herrick: I wish to speak briefly of two or three points, elementary and primary perhaps, but none the less deserving of emphasis. First, regarding the specific gravity of the urine. We are taught that a saccharine urine is a urine of high specific gravity. So true is this that many insurance companies direct their examiners to test for sugar only when the specific gravity is over 1015 or 1020. We should not fall into this error, but should remember that many a urine from a true diabetic may for days and weeks at a time have a specific gravity of no more than 1018 or 1020. Then, there are conditions in which the urine

may have a much lower specific gravity than this and still be a saccharine urine. Von Noorden calls attention to the fact that in the period preceding glycosuria there is frequently a polyuria without sugar, and also following the period of glycosuria, when the sugar is disappearing from the urine there may still be an increase in quantity, but of low specific gravity. If we happen to catch a patient just as the glycosuria is coming on in this period of preglycosuric polyuria, or just as the glycosuria is disappearing, we may find a urine of low specific gravity which contains sugar. Again, the drinking of large amounts of water, such as patients with diabetes will drink on account of thirst, or large quantities of some particular mineral water, will lower the specific gravity, so that the patient may pass urine containing considerable sugar and still have a specific gravity of 1018 or 1020. More than that, the development of a chronic interstitial nephritis, which, as Dr. Elliott says, is a frequent condition that is met with in cases of diabetes, will lower the specific gravity of the urine, and if a patient comes to us with cardiovascular changes in this condition, with albumin and casts in the urine, the urine being of low specific gravity, we may carelessly forget to examine for sugar, so that we should make it a routine practice in patients, even when we find a urine of low specific gravity, to test for sugar.

All text-books or articles upon diabetes and urinalyses tell us that in making the copper test for sugar we should see to it that we do not use an excess of urine, and the reason is plain. A large amount of urine will contain enough creatinin perhaps or uric acid to give a reaction with the color and precipitation, leading us to think that we are dealing with sugar. This is too often forgotten, and it was forcibly impressed upon me within the last six weeks in the case of a medical student who had sugar in his urine. He went home, dieted, and examined his urine daily, and reported to me a "trace of sugar, about one-tenth per cent.," etc. When he returned I found that he was using the copper solution. If he got no reaction with ten drops, he would put in twenty, and if that did not give a reaction, he would put in thirty, or forty, etc. The excess of urine, with continuous boiling, is frequently a source of error.

Another point that is perhaps of interest is that at present formalin is often used as a preservative of the urine. If it is present in large amounts, it will give a reaction very similar to that of sugar. That chloral will do this is well known. Where urine is tested for sugar, formalin should be used in small amounts.

Dr. Wells referred to one fact of great importance, and yet perhaps there was a little contradiction in his statement, if I understood him correctly, when he said that in diabetes sugar was always present; that it was a constant finding in the urine when the patient was on an ordinary mixed diet. But later he said that the sugar at times was absent from the urine of patients even when they were upon a fairly mixed diet. There is, it seems to me, a certain type of diabetes that has a peculiarly periodicity about it. I believe we occasionally see sugar disappear from the urine spontaneously, even though the patient is rather careless as regards diet. The importance of recognizing this fact is seen when a patient comes to us and states that he has diabetes; that he has been treated for it, and when we come to examine the urine we find it sugar-free. It is easy for us to say that the other practitioner is mistaken; that there is no sugar, and tell the patient that he has no diabetes. There is an unexplained periodicity about glycosuria as a part of true diabetes just as in certain cases of nephritis we have, at times, say for days at a time, albumin absent from the urine.

Just one other point, and this is more on the theoretical order, namely, the investigation that has been made by Cohnheim. It has been known for a long time that the muscles were one of the storehouses of glycogen. It has been assumed, and perhaps proven, that the muscles have a great deal to do in the utilization of sugar, in the production of energy and heat in the body; but in the test-tube, the mixing of sugar and of muscle had not up to the time of Cohnheim resulted in any glycolytic action. The same was true of the pancreas. The clinical observations of Lancereaux, referred to by Dr. Elliott, of Minkowski, of Opie and others, leave little doubt that the pancreas is intimately concerned in the causation of diabetes, and in some way has to do with normal glycolysis. It occurred to Cohnheim that there was some intimate relation between the muscles and pancreas, and so he conceived the idea of mixing pancreas and muscle with sugar and observing the action. He froze muscle, chopped it up finely like shavings or sawdust, and under high pressure extracted the juice of the muscle; he did the same with the pancreas; and then mixing the juices from the pancreas, and from the muscles and adding sugar, found that there was glycolysis, that there was a rapid disappearance of the sugar in the mixture of pancreatic and muscle juice. He believes that the pancreas contains in its internal secretion a ferment, perhaps pro-ferment; that the muscle contains another ferment or proferment, and the two together make a glycolytic ferment that is necessary for proper sugar metabolism. Let the pancreatic ferment be lacking, glycolytic metabolism interfered with, and hyperglycemia and glycosuria result. He compares this interaction of the glycolytic ferments with the action of the ferment in the external pancreatic secretion and recalls the observations of Pawlow that this ferment or pro-ferment in the pancreatic secretion is inert until it has been activated by the ferment in the enteric juice, the enterokinase of Pawlow. He compares it also to the observations made by Ehrlich, that where we are to meet with a bacteriolytic or hemolytic or cytolytic action, we have to have not one factor, but two. We cannot get hemolysis or bacteriolysis from the in-

termediary body alone, but must have the complement as well—one activates the other. This is interesting theoretically, inasmuch as it may lead to practical results, and I hope Dr. Croftan, when he speaks, will refer to this topic because he has done some work along the same line as Cohnheim.

Dr. Frank Billings: I will not take up the time of the Society in an attempt to discuss the causes which have been so aptly brought out by Dr. Wells, but will speak of one point which Dr. Wells may have in his paper, but did not mention, and that is, in the causation of pancreatic disease so well described by Opie, in relation to infection of the gall tracts, and particularly of cholelithiasis, and consequently of diabetes, is an interesting one. We should take advantage of this knowledge, when a patient comes to us with diabetes, in an attempt to find if in his history he has suffered with anything like gall-stones. I find, since Opie's announcement, not infrequently a history in patients of disease of the gall tracts, and this will be of more interest in the future than it is now, because with more certain knowledge in a certain number of cases who still carry their gall-stones, either we medical men must secure some drug which will so disinfect the gall tracts that the evil influence of the infection of the gall tracts will no longer be felt by the pancreas, or we must call upon the surgeons to help us out in the treatment of diabetes. I believe there is a place for the surgeon in the treatment of diabetes, and especially of that form of it in which we can find the history of the patient, or from physical evidence on examination, that there is either the presence of gallstones in the gall tracts or an infection of the gall tracts which can be removed by drainage.

With reference to the continuation of diabetes, I fully agree with Dr. Wells and Dr. Eiliott, that once a diabetic, always a diabetic; but that does not necessarily mean that we should give a prognosis to our patients of early death, for I think it is true of diabetes of a chronic nature, especially the so-called fat diabetes, that a patient, once acquainted with his condition and following a hygiene laid out by the physician, will possibly live longer than his neighbor who has no diabetes. He is subject, of course, to accidents, and perhaps acute infection occurring in him may be more dangerous than to the other individual; but my personal experience with such cases is that life may be prolonged to the alotted span in many individuals, provided one can govern them.

In relation to the treatment, I want to say a few words. I fully coincide with what Dr. Wells has said concerning diet. Two years ago, I think, von Noorden brought out a therapeutic test-meal, a combination of food stuffs, which I have used a good deal, and the men who are associated with me have used a good deal. It consists of a combination of starches, chiefly in the form of oatmeal; of fats in the form of butter, and albumen in the form of egg albumen. For an invidual weighing 150 pounds, von Noorden advised the use of 250 grams of oatmeal (about eight ounces), to be mixed with 300 grams of butter (about ten ounces), and 100 grams of egg albumen; the oatmeal to be steamed or boiled, and while hot, to have butter intimately mixed with it, and finally the whites of a sufficient number of eggs to measure about 100 grams, or three ounces, to be added. One may think this would be unpalatable to the patient and perhaps indigestible; but the contrary is true. So far, I have used it in hospital and private practice on seven patients, and if I remember correctly, von Noorden states in his original report that he had used it on seven patients. All have taken it with pleasure. There have been no complaints from any of the patients that it was disagreeable to the palate. As a therapeutic agent or guide, it is far better than anything which I have ever found in any diet list. In all but two of the seven patients immediate improvement occurred in five; in two there was no improvement. In two apparently the condition as to acidosis, presence of diacetic acid and acetone in the urine, was increased rather than decreased. In five of the patients not only was acidosis decreased, when present, but sugar either diminished or became immediately almost absent. One of the first patients was a young man from the West who suffered from diabetes for a considerable time (it is difficult to say just how long), who passed three thousand C.c. of urine in twenty-four hours, with 2 per cent. sugar. Within thirty-six hours from the time he began the meal the urine was without a trace of sugar, and while in another twenty-four hours there was a little reaction and the reappearance in the urine of a trace of sugar, still while under observation in the hospital for some ten days the urine was practically sugar-free.

We all know how severe acute diabetes is in the young. Most of the cases are practically fatal, so that we dread diabetes in children. This last summer one of the patients, a child, whose father is a chemist, and was under the intelligent care of physicians for a long time. The father came to me, understanding that diabetes was dangerous and fatal in children, and I explained to him this therapeutic test, and the fact that I had not only used the diet as a therapeutic test, but that I had kept patients on it longer than von Noorden had advised, with benefit. The child was put on that diet very early in June. Until September the sugar had entirely disappeared from the urine; the child gained nine pounds in weight. After two months of this diet she began to complain. She wanted something else to eat. The mother allowed her bread in the place of oatmeal, with egg and light diet, and immediately the sugar began to reappear in the urine. The child was again put back on the von Noorden diet, shortly after which the sugar disappeared. Not only have I used it since von Noorden's announcement as a therapeutic test, to decide upon the sugar-destroying power of the individual organism, and gradually come back to a more mixed diet, but I have used it as a steady diet for a month

or longer in individuals, with not only disappearance practically of the sugar, but improvement in the nutrition of the patient. We divide this diet usually into several portions, so that the individual, instead of getting three meals a day, will eat six times a day. I wish to say in addition to what I have already said, that on this diet I have found that acidosis not only disappears, but it does not develop in the patients, thereby removing that great danger in diabetes. When a patient is tired of this diet, he is put upon an ordinary antidiabetic diet. It may be best to return to the von Noorden diet for a week every month.

It is not the experience of the best clinicians to-day to treat a patient by diet or medication with the idea of solely ridding the urine of sugar; but the good physician measures his patient's weight quite as often as he measures the urine, and if he finds upon a rather strict diet that his patient is losing in weight, he would rather add to the diet something which will enable him to increase in weight rather than continue a diet which means less sugar, but less weight on the part of the individual, for invariably in my own experience, as the individual decrease in weight there is coincidently with it, possibly related to it in some way, an acidosis,—an increase in the diacetic acid, and acetone, consequently the patient passes on toward the danger zone of coma.

Dr. Alfred C. Croftan: It is gratifying to see what a radical change has occurred within the last few years, in regard to the administration of starches and sugars in diabetes. Instead of continuing the routine habit of handing diabetics a diet list containing no carbohydrates, practitioners are beginning to exercise better judgment and are learning to individualize. Two great dangers, chronic under-nutrition and the development of acidosis, are always to be dreaded in this disease; and the physician who prescribes a more liberal diet for diabetics and occasionally uses carbohydrates as a distinct therapeutic measure does much to ward off these dangers.

There is one point that has not been brought out with sufficient clearness, although it has been hinted at this evening, and that is the peculiar effect that the administration of carbohydrates has upon the acetone excretion. It may be considered established that very many cases with acetonuria, will stop excreting acetone and its precursors and congeners if a certain amount of carbohydrate is given. This applies to all cases of non-diabetic acetonuria and to most diabetic acetonurias. In every severe case of acidosis, particularly in a patient who has existed for a long time upon a carbohydrate-free diet, it is often good practice, even in impending coma, to give some sugar or other carbohydrate. I go further than that for in extreme cases of coma in which I have to resort to the hypodermic or intravenous injection of sodium bicarbonate and other alkalies, I have as a last resource injected directly into the veins, together with carbonate of sodium solution, some sugar, preferably levulose, and I believe that in some of these cases the recovery from the coma could be attributed to the administration of carbohydrate in this way.

I am glad that Dr. Billings has mentioned von Noorden's so called "oatmeal-cure." The statistics from abroad are as favorable as those quoted. In my experience I have had several very good results from it, one indifferent result, and one bad result; and I believe that the unfavorable result in my one case can be attributed to the administration of the oatmeal. I do not know whether Dr. Billings ever has had the same experience or not, namely, that after stopping the oatmeal a terrific acetonuria appeared with rapidly developing acidosis and death in coma. I mean by terrific really enormous amounts of acetone in the urine, larger than those I had ever seen in any other form of diabetes or any disease that is accompanied by acetonuria. This is the one thing to be afraid of. I believe that not only oatmeal, but any other of the ordinary starchy foods, such as potatoes, or rice, or bread, can be advantageously utilized in this sense, provided proper care is taken to give that particular carbohydrate alone. I warn my patients to take either oatmeal alone, or potatoes alone, or rice alone, and not to take rice and oatmeal together, or oatmeal and potatoes together. You will find the same effect in most cases from the single administration of any one carbohydrate. I think this treatment is useful only in severe adult forms, and in juvenile types of diabetes. The theoretical explanation of this phenemenon is still forthcoming.

Dr. Herrick spoke of some of the uncertainties of the Fehling test, particularly of the reducing action of certain urinary bodies other than dextrose. This difficulty, which is real, can usually be obviated by boiling the urine and the Fehling solution in separate tubes and then allowing the two liquids to cool off a little below the boiling point. When the two liquids are poured together a reduction occurring at once all through the mixture indicates only sugar, because the other important bodies only reduce Fehling's solution at boiling temperature.

One thing I have been confronted with is what may be called a delayed or incomplete Fehling's test; we do not get a precipitate, but merely a browning of the fluid, with phosphates falling down at the same time, cupric reduction due to sugar is simulated. So far as I have been able to determine, in the great majority of cases, this is due to the presence in the urine of a group of bodies known as glycuronic acid compounds, and these are in general derived from gastro-intestinal putrefaction. They have practically the same significance that indican has for both indican and the glycuronates are compounds of .....and its congeners; the administration of a brisk purge and the use of intestinal putrefaction stoppers, not to say intestinal antiseptics, frequently causes a disappearance simultaneously of the glycuronates and of indican. Whenever this peculiar reaction appears, therefore, the bowel should first be cleansed out and the test repeated before the presence of sugar is assumed

and the diagnosis glycosuria made. Other tests for sugar will of course decide the matter.

One thing is pleasant to contemplate, namely, that the prognosis of diabetes is no longer considered so bad and that fewer diabetics are scared and starved to death. We should, above all, not be so anxious as we have been to stop every bit of sugar. Let the diabetic pass a little sugar occasionally. For my part I prefer to have my patient live thirty years with a little sugar than to have him live one year without any sugar in the urine.

Dr. Alice Hamilton read a paper entitled **The Invisible Droplets of Sputum Expelled in Coughing.** Dr. Hamilton finds that there is a well marked danger from this source and called attention to the possibility of infection being transmitted to patients through the unprotected mouths of the surgeons or nurses present at operations or engaged in preparing dressings. It was discussed by:

Dr. Josephine C. Young: In Landau's clinic in Berlin the practice of wearing veilings by the operating surgeon, assistant and nurse who handles the instruments has been in effect for about a year. No one is allowed to go near a patient who does not have a veil over the nose and mouth.

Dr. A. L. Derdiger: The paper read by Dr. Hamilton is intensely interesting from a scientific standpoint. It is a splendid lesson also for the laity, for it is very difficult for physicians in this twentieth century to teach even intelligent and educated people to be cautious.

Some two years ago, while taking charge of the bacteriological laboratory at the P. and S. college, it occurred to me to make some experiments similar in many respects to those that have been enumerated to-night, and almost out of pastime I went to work to satisfy myself whether or not we have these streptococci and staphylococci present in more or less numbers on the tonsils. I asked some of my students to breathe on slides, and sure enough, out of forty-odd students experimented with, I found that in thirty the streptococcus was present.

MEETING OF OCTOBER 26, 1904.

A regular meeting of the Chicago Medical Society was held October 26th, at which the following program was presented.

Atrophic Cirrhosis of the Liver, With Tuberculosis of the Peritoneum and Testicle.

Dr. A. M. Stober: The specimens for presentation this evening were removed at autopsy this morning at the Cook County Hospital by Dr. Evans. The case was a male, age 32, switchman by occupation. He gave a history of having been struck in the left testicle by a switch six months ago, and subsequently had trouble with that viscus. About six weeks ago he first noticed a swelling in the abdomen, and four weeks ago became short of breath, and it was with this rather vague history that the patient entered the hospital. At the time of admission to the hospital the left testicle was swollen, cystic and tender, and upon aspiration about one ounce of a semi-caseous material was removed. Physical examination revealed the presence of considerable fluid in the peritoneal cavity, and smaller quantities of fluid in both pleural cavities. The temperature averaged about 100°, and he complained of nothing except a slight pain on the right side. A diagnosis of atrophic cirrhosis of the liver was ventured to explain the ascites, and tuberculosis of the various serous cavities was also diagnosed from the presence of fluid in these cavities and the association of a tubercular abscess in the testicle. There were no evidences of portal congestion except the ascites. About six days ago the case took on an appearance which pointed toward acute infection of the peritoneal cavity. The abdomen became more distended, tympanitic, and somewhat tender on pressure. There was slight rigidity, rise of temperature, and subsequently vomiting. Patient died yesterday, and at the autopsy today there was revealed an acute sero-fibrinous peritonitis, and beneath the fibrin and at other places could be seen numerous miliary tubercles. The pleural cavities and pericardial cavity revealed an excess of bloody fluid. The surfaces had lost their luster, but no definite fibrin formation was present, so that while tuberculosis of these cavities might be suspected, there is nothing definite pointing toward the same. The left epididymis was very much enlarged, and on section showed the presence of a number of caseous areas, some of which were several centimeters in diameter.

The abdominal viscera of this case is presented to the society in response to a request for fresh pathological material, and while the specimen removed is too heavy to pass around, it will be exhibited at the table, with several microscopic preparations.

The liver presented mild cirrhosis, which was in accord with the history of the man who had taken twenty drinks of whiskey a day for some years; and cirrhosis is evident from the nodular surface and the presence of connective tissue in the cut section. The liver was not very firm, and frozen sections show the presence of a large amount of connective tissue, but nearly all of this is of recent formation, that is, it has not developed to the contracting stage.

A section of the omentum has also been prepared, and while the tubercles are not plain, it it quite evidently a tuberculosis inflammation.

Another section of the tubercle stained with carbolfuchsin shows the presence of tubercle bacilli at the edge of the caseating area.

A Profound Case of Diabetes Insipidus.

John A. Robison, M. D., Chicago: Diabetes insipidus is the term which writers have used to describe a condition of the system in which there is an excessive amount of urine voided, of low specific gravity, without sugar or albumen. This term has been loosely used to cover all forms of excessive urination elimination without reference to the state of the urine, but Charles Henry Ralfe, in **Albutt's System of Medicine,** properly classifies the disease under two general heads: (a) That in which the aqueous superflux is most marked—hydruria;

(b) that in which the drain of one or more of the solid constituents of the urine is persistent—polyuria.

The case I report tonight properly belongs to the class, hydruria, as it is characterized by a large discharge of urine, low in specific gravity, without proportionate increase of the solid matters, or sugar or albumen.

Hydruria is somewhat a rare disease, the register of the London Hospital showing only eight cases admitted from 1876 to 1895, while Osler states there have been only three cases of diabetes insipidus in 239,000 cases in the Johns Hopkins Hospital and Dispensary. Ralfe, however, saw twenty cases in fifteen years' hospital practice, and nine cases in private practice, with thirty-eight other cases which he collated. Since inquiring among my colleagues concerning the prevalence of this disease I am inclined to believe that the disease is more frequently observed than we thought possible. Personally I have seen three cases in twenty-four years' practice.

The aetiology is still a question of dispute. It is a disease of childhood and middle age, and males are affected in the proportion of two to one. Cases occurring in childhood are frequently of parents who are glycosuric or albuminuric. Tuberculosis and gout seem to predispose to the disease. Malnutrition is one of the foremost remote causes. Of the immediate causes anything which tends to depress the nervous system plays its part, and tumors or injuries which interfere with the transmission of nervous influence disturbing vaso-motor governance of the renal vessels must be considered as aetiological factors.

Symptoms—The Symptoms are profusion of urine, intense thirst and gradual asthenia. The urine is non-albuminuric and glycosuric. The quantity of urine varies from two and one-half to fifty pints. The specific gravity is always low, sometimes apparently as low as distilled water, but Ralfe says this is due to a careless reading of the specific gravity, as the urine should be at a temperature of 100° F.

Disturbances of enervation are frequent, headaches, shooting pains, spasmodic affections of the gastro-intestinal tract, hiccough, etc.

Disturbances of nutrition are apt to set in early, the temperature is often subnormal, the pulse is feeble and the blood-pressure is low. Fatal cases are due to exhaustion, followed by coma, or diarrhoea, or sometimes a form of low, congestive pneumonia.

The diagnosis is usually easy; it is to be differentiated from diabetes mellitus, hysteria, large cysts of the kidney, incontinence, etc.

The prognosis is variable, some cases lasting only a short time. A few results in recovery, and many not, and one case is on record which lasted fifty years. The majority of the cases are of long standing, and the patient succumbs to some intercurrent disease.

Pathology.

The pathology is still theoretical; it is pretty well agreed that the disease is due to want of inhibitory control of the vaso-motor renal nerves. Renal changes which have been noticed in cases of long standing were probably due to the mechanical effects of the disease.

As Ralfe says: "It is interesting to trace the course of the nerves forming the renal plexus, as irritation from eccentric or distant sources may play a part in inhibiting the renal nerves. Thus, the nerves forming the renal plexus are derived from the solar plexus; as the right vagus and great and lesser splanchnics join the solar plexus, it is probable that branches of these nerves enter the kidney by way of the renal plexus. The splanchnics also send branches direct to the renal plexus; and the left vagus sends some fibres to the left kidney. They contain vaso-constrictor, vaso-dilator and sensory fibres. The connection through the vagus brings us into range with the medulla oblongata, and with many organs susceptible of tubercular or syphilitic growths, or of sudden shock, such as chill. The solar plexus may propagate the effects of abdominal new growths or aneurisms."

The patient before you tonight is J. B. K., of Deadwood, S. D., a railroad conductor, aged 32, single, American. Family history negative. Had typhoid fever when small; also, last year in September. January 17, 1903, he fell from a freight car backward on to a coal car, striking on his hip, back and side. Says his back has been weaker since this accident. Has always been accustomed for past fourteen years, since he has been railroading, to long hours of hard work, irregular meals and sleep. Has been troubled more or less with constipation during the past eight or nine years.

Began about the 1st of last August to pass large quantities of urine, pale in color, at frequent intervals, every 30 or 40 minutes during the day, and about every hour or two during the night. No pain or smarting or other subjective symptoms. Passed from the beginning of the attack from 35 to 40 pints each twenty-four hours, the largest amount being about ten days ago—40 pints. He has lost almost no weight, his average weight being about 153 pounds. Now it is 150 pounds. Appetite good, and has not lost strength, except he is unable to sustain severe labor on account of the loss of sleep.

You notice he is a well developed man, and the examination of his body is negative, so far as evidence of disease is concerned.

The pulse is 70, and the blood pressure is very low, registering only 85. The respirations are 20. The blood examination reveals erythrocytes, 5,100,000; leucocytes, 15,000; haemoglobin, 80 per cent. (Dare); small mononuclear leucocytes, 24 per cent.; large mononuclear 1. 1 per cent; polymorphonuclear 1. 68 per cent.

Dr. Tieken examined the blood and urine. Blood, freezing point, 060, .4 lower than normal. The urine was 1002 specific gravity, urea, .1 of 1 per cent; no sugar or albumen, freezing point, .011.

The amount of urine this patient has been voiding during the two weeks he has been in the city under my observation has averaged

from 11 to 18 pints in the twelve hours, he partaking of one or two pints less fluid than is voided. His thirst is quite uncontrollable.

The question that arises in my mind is what relation is there between the injury sustained in January and the sudden onset of the diabetes? Did the injury cause the spinal lesions which finally resulted in the loss of vaso-motor control.

Dr. Bertha Van Hoosen telephoned me the other day and asked if I had examined for the plasmodia. I have since done so with negative result. She reported the case of a niece, aged 10 years, who has long been an hydruric patient, and in whom the plasmodium was found, and who improved after she was placed on anti-malarial treatment, although she is still voiding a much larger quantity than normal.

100 State street.

Discussion.

Dr. N. S. Davis was asked to open the discussion. He said: Mr. President, I would like to ask Dr. Robison a question. Did I understand that the patient came from Colorado?

Dr. Robison: He came from South Dakota.

Dr. Davis: I would like to ask whether the polyuria was greater there than here?

Dr. Robison: It came on suddenly and was about the same in amount. One fact I mentioned was that there were no diabetic symptoms following the accident he sustained on the 27th of January. The polyuria came on without warning, except that a few days previously the patient felt somewhat fatigued.

Dr. Davis (continuing): Why I asked the question was that it is often suggested that in the treatment of these cases an attempt be made to bring about vicarious elimination through the skin and lungs, hoping that by so doing the polyuria will be lessened. At as high an altitude as this patient formerly was, there ought to be considerable elimination by the lungs and skin, and a lessening of the amount of urine voided. There ought to be a larger elimination now by the kidneys than when the patient was in the West.

In the cases that have come under my observation I have found no medicine do good. Usually the patients were very much distressed because they had to make water so frequently. It interfered with sleep and often made them nervous and apprehensive. They were generally pale, indeed a little anemic. Such patients are liable to many ups and downs, as regards the amount of urine voided, but there was no permanent improvement. One or two patients whom I constantly watched for a number of years had such a history. Two or three other cases which I have in mind, I saw only for a few weeks at a time, so that I am not able to say what effect treatment had. Stimulation of the skin to act freely; provoking free liquid movements from the bowels, are measures which lessen the elimination of water. However I believe the best results are obtained by restricting the quantity of fluid taken. This restriction should be made slowly and gradually, so that the patient suffers no great discomfort, but usually affords marked relief of the discomforts of polyuria.

Dr. Frank Billings: There is a woman at the Presbyterian Hospital who, on an average, passes more than ten ounces of urine an hour, night and day, of low specific gravity. The case is like one of diabetes insipidus, but in this particular instance there is compression of the cord. Dr. Moyer is familiar with the case, and I think it would be interesting in this connection to have him say something about it.

Dr. Harold N. Moyer: In reference to the remarks made by Dr. Billings, I will say that this young woman, seemingly previously well, with no special impairment of health, in June noticed a little difficulty in walking. This condition continued for four or five weeks; then her locomotion becoming more impaired, finally she became paretic in the lower extremities. There was total paralysis both as to sensation and motion. There was no particular pain connected with the onset of the malady, nor with its course excepting an indefinite feeling of discomfort, or uneasiness about the level of the sixth rib.

At the time she was admitted to the hospital she had well marked signs of compression of the cord, and the focalizing symptoms placed the compression at the fourth dorsal vertebra. It was probably not quite complete as to sensation. I believe that a slight painful sensation was experienced in the lower extremity, but other than that, sensation was cut off.

An operation was made on Monday by Dr. Bevan, and an osteoma was found which completely compressed the cord at the level of the fourth dorsal segment, the cord having been compressed to a ribbon not more than an eighth inch in diameter. I think the symptom mentioned by Dr. Billings developed yesterday, one day after the operation.

In view of the very great obscurity of such cases as have been described by Dr. Robison, and the fact that no very satisfactory explanation of them has been offered this case may point to a nervous condition, probably of the gray matter; possibly in the cord. In this case it would seem to point to involvement of the gray matter of the cord, and that this was the highest level of the nervous system that was involved in this particular instance, everything above that was intact.

Dr. Joseph C. Beck read a paper entitled

Radium, its Uses in Some Ear, Nose and Throat Affections.

Discussion on the Paper of Dr. Joseph C. Beck.

Dr. William L. Ballenger: I promised Dr. Beck that I would speak on his paper, but owing to the lateness of the hour, I rather hesitate to do so. However, I simply want to corroborate the results obtained by him in the three cases I placed under his care. In one case of sarcoma of the nose he succeeded in controlling pain, otherwise there is no result.

In another case I removed a spur from the septum. After complete healing of the same,

there was continued dull pain in the anterior portion of the septum. I could not determine the nature of it, unless it was due to a terminal injury to a nerve, neuralgic, or what-not. I used various applications, placebo, etc., as well as suggestion, but with no beneficial results. I then placed the patient in Dr. Beck's hands, who very speedily relieved her of pain by the use of radium.

The third case was one of mastoid trouble in which there was severe pain probably due to a basilar meningitis of a chronic type, which has not yielded in any measure to the radium, except that it makes her sleep better. The pain has not been relieved.

Report of a Case of Post-Diphtheritic Paralysis. Abstract.

Wm. J. Butler, Chicago. The author stated that among the older writers some attributed all cases of sudden death in diphtheria to extension of the membrane into the larynx, maintaining this in the face of tracheotomy. Trousseau suggested that some cases of sudden death in diphtheria were due to disturbance of heart function, the result of changes in that organ. After narrating the earliest recorded pathological observations and discussing at great length the modern views in regard to this subject, the author reported the following interesting case; of cardiac paralysis:

Dora W., Jewish, aged 12 years; second youngest of five children, all living and well. Was never sick, with the exception of an attack of gastroenteritis at two years. She had eczema capitus from the second week of life to the end of the first year. She weighed 91 pounds before taken ill, about June 15th, when she complained of sore throat, headache, chills and fever; also vomited. Submaxillary swellings appeared on both sides. The mother considered it mumps and treated the patient with linseed poultices and a gargle, consisting of potash and borax. About ten days after onset another member of the household complained of sore throat, when a doctor was called in and pronounced the disease diphtheria. By this time liquids had started to return through nose of patient on effort at swallowing them. He gave her two thousand units of antitoxin at once, after which she seemed better for a couple of days and sat up in bed. While in this position she was taken with severe epigastric pain and vomiting. Complained of dizziness, and seemed very short of breath. Face grew pale, and lips blue, and she lost consciousness. This lasted several minutes, and on arousing she again complained of abdominal pain, vomited and fainted. On recovering from this she had a similar third attack. Thereafter she complained of pain in the chest, and was very restless. Her breathing was labored and rapid, and she had to be elevated during the night to breathe. During the same night she had two or three attacks of great pain, vomiting and syncope, cyanosis and coldness of extremities. She now began to cough and expectorated a bloody, frothy sputum. The spells of syncope recurred from a few to several times in twenty-four hours, frequently preceded by pain or vomiting, or both. At other times she vomited or complained of severe epigastric pain only.

In the course of four or five days the pain localized itself over the precordial area and lower part of the sternum. Syncope now became less frequent, but severe attacks of angina, with great difficulty in breathing, occurred several times every twenty-four hours. Frequent cough and bloody expectoration continued. About July 3rd it was noticed that she not only had difficulty in swallowing liquids, but could not swallow solids.

He first saw the patient about July 1st, and found the following: The patient was apathetic; coughed frequently and hard, expectorating a bloody serum. She complained of pain over the lower part of the sternum and precordia. Face pale, with cyanosis of lips. Eyes negative; tongue moist, and slightly coated. Soft palate immovable. Complete aphonia. No swelling of glands noticeable at present. Marked venous pulse extending into lobe, carotids not palpable. Breathing labored and rapid, forty per minute; at times of Cheyne-Stokes type. Respiratory movements entirely thoracic and confined to the upper part of the chest. Excursion equal on both sides. Percussion gave hyperresonant sound anteriorly on both sides, lower border on right side terminating on sixth rib, and immovable on inspiration. On left side it extended to third rib. Ausculation gave vesicular breathing, accompanied with dry rales over both lungs, but almost inaudible in lower and lateral parts of chest. Examination of lungs posteriorly gave resonance above, but dullness on right side from mid-scapular region down, and on left side from angle of scapula to lower border.

Auscultation gave vesicular sounds above with dry rales, disappearing over dull area. No visible apex beat or impulse of chest wall.

Heart: Dullness above commenced in second interspace, becoming absolute on third rib. Toward the right, absolute dullness extended two fingers breadth to the right of the right sternal border. To the left, dullness commenced just inside the anterior axillary line. Auscultation gave feeble heart tones, with galop rhythm over the entire heart. There were no murmurs. Pulse was 120 per minute, irregular in quantity, intermittent, very feeble, and small.

Abdomen: Retraction of epigastrium on inspiration. Liver extends three fingers breadth below the rib arch in mammillary line and is painful to pressure. Lower border palpable. Spleen not palpable. No ascites. No edema of extremities. Patellar reflexes absent. Gave strychnine, grains 1-60, and codeine, gr. ⅛.

After a few days slight improvement was noted. The pulse was a little less irregular and intermittent and of slightly improved tension. The patient had had only one spell of syncope and attacks of angina were less frequent. Cough did not seem so troublesome, and

expectoration was diminished. Heart tones were a little louder, but galop rhythm continued.

July 16th she had two attacks of syncope, preceded by severe precordial pain. July 17th, Dr. Stein examined the larynx and found paralysis of the tensors. Swallowing of solids still difficult. On morning of July 19th, found cough much increased; copious expectoration of red-colored sputum. Respiration 40 and labored. Conditions of swallowing and speaking unchanged. Numerous dry and subcrepitant rales heard over lateral surfaces of chest. Galop rhythm marked. Sounds feeble; pulse 130, of lower tension, and smaller volume than on previous day. On inquiry, found patient had not received any medication for sixteen hours. This suggested the possibility that her previous improvement might have been influenced to some extent by therapy, and the writer therefore ordered strychnine and codeine to be given every three hours during that day. He saw the patient the same evening and found the cough less frequent. Respirations 32 per minute. Auscultation of lungs unchanged. Heart area unchanged except dullness to the right of the sternum was less intense. Heart tones stronger and galop rhythm hardly distinguishable, although it was observed the next day. From this on, improvement was maintained, and on July 27th the following condition was found: Face pale; mucosa cyanosed; voice sounds moderately loud; soft palate moved slightly; patient swallows solids, but with difficulty; venous pulse noticeable only in lower part of neck. Carotids palpable. Respirations still thoracic. Lower lung borders the same, with slight clearing on inspiration. Respiratory sounds more distinct in the lower and lateral surfaces of the chest. Posteriorly, the dullness below the angle of the scapula previously noted faded into a dull tympanitic resonance on the right side, and at a lower level on the left side. Respiratory murmur more distinct and accompanied by occasional rales. Heart area the same with dullness less distinct to the right of sternum. Heart tones moderately loud, with galop rhythm heard chiefly over the apex and base. Epigastric retraction on inspiration. Liver dullness about two fingers breadth below the costal arch.

On August 8th, diminished heart area, and louder second pulmonic than aortic tone. Galop rhythm still continued. Strabismus present, there being paralysis of both external recti.

The writer saw patient about September 10, when she was out of bed. Physical signs about the same as at the previous examination. She walks with an ataxic, paretic gait. Patellar reflexes still absent. Pulse 104; fair tension, and not intermittent, but accelerated on slight exertion, with complaint of palpitation.

The diagnosis in the above case seemed clear, namely, a post-diphtheric paralysis of unusual extent, involving the external recti of the eyes, the soft palate, the pharynx, the adductors of the larynx, the diaphragm, and peripheral nerves. Acute cardiac dilatation, with pulmonary hypostasis and edema; also liver stasis.

Among the 270 cases of post-diphtheritic paralysis reported by Myers, in only one was the larynx involved. The conditions which specially interested the writer in this case concerned the heart and diaphragm. In the fatal cases of cardiac complication during or following diphtheria, various writers on the subject lay special stress on the galop rhythm, vomiting at the height of attack of diphtheria, or in convalescence; the pallor of the face, cyanosed lips, the rapid, feeble, irregular and intermittent pulse; the syncope; more recently the much emphasized epigastric pain, all of which were present in the above case.

The treatment employed consisted of codeine to allay restlessness and cough, strychnia, which latter seemed to exert a favorable influence on the heart tones from the beginning of its use.

Discussion on the Paper of Dr. W. J. Butler.

Dr. Frank S. Churchill: Dr. Butler's paper is most interesting, and there are one or two points to which I would like to refer, especially with reference to the pathological condition of the vagus, which supplies nerves to the soft palate. We must insist on rigid treatment in those cases suffering from regurgitation of fluids through the nose, and keep such patients in bed. My observation has been that this is not done frequently enough. I have seen patients allowed to run about and given instructions to return to the clinic. They should be kept in bed until all such symptoms have entirely disappeared, because, even if there are no signs of cardiac trouble at that time, the difficulty in swallowing should be a danger signal, and we should be on the lookout for heart complications. If these cases are carefully watched, we should have ample warning of heart failure, particularly if we watch the pulse, and make a daily examination of the heart, thus enabling us to detect the slightest change in its rhythm.

I did not understand from Dr. Butler's report that there was any mention of the urine in his case, and I should like to ask him if the urine was examined. I speak of this because several years ago the importance of a thorough examination of the urine was forcibly impressed upon me by a case which came to our clinic at Rush Medical College. A child came in in March, having suffered from diphtheria the December before, followed by an extensive post-diphtheritic paralysis. The child was treated purely for his paralysis during the months of January and February and early March, and was given vigorous tonic treatment, forced feeding, with large amounts of meats, eggs, and milk; in short, a very nutritious diet. The urine had never been examined. The child did not do well; on the contrary, he grew worse and worse. I examined the urine, and found extensive chronic parenchymatous nephritis. If the urine had been examined earlier in the case, the physician in charge would not have given the child such a nutritious diet. He would have cut out meats. It impressed upon me anew the importance of examining the urine in all cases; for while nephritis is not so common after diphtheria as it is after scarlatina, it is

far more common after the former disease than is generally supposed.

Dr. Adolph Gehrmann: It seems to me that clinicians can learn something from animal experiments with the diphtheria toxin and antitoxin. Of course, with an overwhelming injection of a toxin, that could be given, the animal would die in a short time; but the amount can be so regulated that one can almost definitely say the animal will die within a certain number of days, or upon a certain day, extending it to a week or ten days ahead. The action in these small amounts is not immediate, but apparently some slow combination takes place that gradually makes the poison more and more felt, until eventually it causes death of the animal. It is also established in tetanus that antitoxin does not neutralize the toxin that has been absorbed by the nerves, as well as the toxin which is still floating in the blood. Therefore, it has been proposed that we inject antitoxin in tetanus directly into the nerves. The toxin travels along the nerves, produces destruction, reaches gray matter eventually, and causes a fatal result. It is possible in diphtheria that the same condition occurs, and we have therefore this delayed condition of death. I believe that the writer of the paper is correct in his statement; and it can be followed out by statistics, and that the reason for the increase in the number of deaths of this character is due to the fact that the immediate causes of death by neutralization of the toxins through the use of antitoxin and by suffocation. Cases live and thus gives a chance for the delayed results of the toxin action which has already been absorbed or combined.

Dr. Butler (closing the discussion): In regard to the remarks of Dr. Churchill, I will say that daily urinalyses were made, and they were negative. We also examined the blood, as matter of routine work.

I have nothing further to add, except to point out the necessity for watchfulness in cases of diphtheria that may show any irregularity in rythm or quality of the pulse or any of the symptoms recognized as indicative of cardiac complications, which would call for keeping the patient in bed and holding under careful observation for some time after the first appearance of any of these symptoms, as rest in bed is the most essential factor in their treatment. These cardiac disturbances are far more frequent in cases that come late under treatment, and such cases require close watching, as the slightest changes in the pulse may simply antedate only a few hours or days the most serious heart changes.

A paper **Bronchoscopy for Foreign Bodies in the Bronchial Tubes,** was read by Dr. E. Fletcher Ingals, see page 616.

MEETING OF NOVEMBER 2, 1904.

A regular meeting of the Chicago Medical Society was held Nov. 2. Dr. B. W. Sippy presented a case of **Stenosis of the Lower Part of the Esophagus.**

Discussion on Dr. Sippy's Case.

Dr. Harold N. Moyer: This is the second time I have seen so far into a living body. The first time I ever saw a firm tube passed into the esophagus was in Vienna in 1882, and I cannot recall the name of the woman, but doubtless some of you here will remember the name of the woman who used to teach us the anatomy of the larynx, how to look into and examine it with the laryngoscope and touch the vocal cords. She permitted the instrument to be passed down her esophagus, and so far as I know, no one else ever did it, and this was before the days of cocain. She voluntarily assisted at the operation in her usual skilful manner.

Dr. Norman Bridge: I should like to say anent the remarks of Dr. Sippy about the normal condition of the cardiac end of the esophagus, namely, that it is in a condition of tonic contraction, that Dr. Ingals told me of one examination he made with an instrument similar to the one used here tonight, in which he found the cardiac extremity of the esophagus absolutely open, much to his surprise. I have no doubt that was due to some pathologic state, and that the statement of Dr. Sippy is entirely correct as to the usual condition of the lower end of the esophagus.

I feel as a physician that what Dr. Sippy said about the necessity of care as to spasm of the cardia is very important, for I have known some instances where violence was done by using small bougies and by pushing them too forcibly against the spasm of the cardiac end of the esophagus, producing injury through traumatisms. One patient had abdominal tuberculosis, and died of it. There was also present tuberculosis of the lungs in a less advanced state; but the patient had also, early in the sickness, a stricture of the esophagus. One physician tried various devices with which to explore her stomach, and I believe never succeeded in passing an instrument into the stomach. I do not know the size of the instrument he used, but the case was one of spasm evidently, for long before death the spasm entirely disappeared and the patient was able to swallow without any difficulty whatever. While under my observation, which was earlier in the case than the time when the instruments were used the spasm was present so that at times it was impossible to swallow. At other times it would relax and swallowing would be accomplished for a few minutes without any difficulty.

Dr. Nerval H. Pierce: It is exceedingly interesting to trace the history of these various procedures to gain a view of the interior of the body. The principle is the ancient one of inspection through a straight tube. The modern development started with Desormeaux and his urethroscope in the last century (1853), and the first esophagos-copy was made by Kussmaul in 1868 with the urethroscope of Desormaux, and direct laryngoscopy, tracheoscopy and bronchoscopy were the result directly of false passages in attempted esophagoscopies. In other words, the tubes used in those days and since were by accident introduced into the larynx, and it was found we could get a good view of the larynx in that way, and of the trachea, and latterly with advances of Killian.

Mikulicz, V. Hacker, Kerstein and others we may readily gain a view of the bronchial tubes even down to the second tube.

I have had no personal experience with the use of the esophagoscope in treating diseased conditions. I have, however, used it in the diagnosis of tumors and in extracting foreign bodies. It seems to me, that from a practical standpoint the esophagoscope has a rather limited, though well-defined, sphere. In diagnosis it is extremely important, an instance of which is well brought out by Dr. Sippy, but hard it is to handle in a great many cases, but for the purpose of detecting and extracting foreign bodies it stands pre-eminent to all other measures.

Congenital Club-Foot.

Frederick Mueller, M. D., Chicago: Ladies and Gentlemen—I have the honor to show you this evening a case of congenital club-foot. Although such cases ordinarily treated by **redressment** would not appeal to you, I think this one is apt to interest you. The patient you see before you is a man, 48 years of age, with congenital club-foot. About thirty years ago he was treated by tenotomies of the achilles tendon on both sides, with only slight result. Ever since he has suffered. He has been very much handicapped in walking and in standing. When I saw him first, it was about two weeks ago, his left foot presented the aspect of severe club-foot, and no signs of any previous treatment. The patient walked on the outside border. The foot was very much inflected, and the axes of both feet formed an angle of over ninety degrees, which opened toward the back. The right foot showed some improvement by the tenotomy which was performed at the age of 19. There was a considerable degree of adduction of the foot. A friend of this patient, a young man, 22 years of age, with double congenital club-foot, was successfully operated upon by me some months ago, and the result in that case stimulated this patient to have an operation done on his feet, which I performed October 21st, by **modelling redressement**, combined with tentotomy of the achilles tendons and the long extensors of the fourth and fifth toes of the left foot. After the operation and application of the casts there was no trouble with the circulation, and the patient had only moderate pain.

As to the age of patients that have been operated upon by **modelling redressement,** a man was operated at the age of 42 years by Lorenz, and this present case holds the record of being the oldest patient ever operated upon by **modelling redressement,** and from that standpoint the case deserves some attention.

You will observe that the patient walks a little awkwardly, because only twelve days have elapsed since the operation was performed. Although the feet are somewhat sore, and are in casts, the patient stands up and can move about fairly well. You will notice that the patient is plantigrade now and that the angle formed by the axis of his foot opens toward the front, whereas before the operation the angle opened toward the back, meaning by that the toes were situated in this way (indicating). If you mark the patellae on both sides, you will notice that they correspond pretty nearly to the situation in which they are situated in a normal person, which means that the line of the patellae corresponds nearly to the plane which goes through the big toe. The patient's feet are in casts, and he wears leather shoes over these casts.

Like all other patients of this kind he will be able to resume his former occupation within a few days, and he will be able to do all his work. After six months, which is the usual time to wear the casts, the plaster is removed and the after-treatment, consisting in massage and exercises, is begun.

Myasthenia Gravis.

Abstract.

Dr. Mortimer Frank read a paper on this subject, saying that it is a rare disease in childhood. Fifty per cent of the cases have been in the female sex, and between the ages of twenty and thirty years. Only three cases have been reported under the age of ten years. The most important symptoms are ptosis, which was present in over 80 per cent of all recorded cases, opthalmoplegia externa, weakness of the muscles of the face, speech, arms and legs. Even more marked than the weakness was the rapid tiring of the muscles on use and upon stimulation by the faradic current. The phenomenon of rapid tiring is usually confined to a few muscles or a group of muscles.

Prognosis as regards recovery is practically hopeless. Average duration of the disease from one to three years. Treatment of little benefit. Pathology vague and uncertain. As yet, no characteristic lesions either macroscpic or microscopic.

The case reported was in a female child, ten years of age. Ptosis was first noticed in Nov. 1902. The present condition, bilateral ptosis and external ophthalmoplegia.

Dr. Julius Grinker: I have been extremely interested in the case reported on account of the ophthalmoplegia externa constituting the only symptom of myasthenia gravis. Usually there are other muscles involved, but in those cases where there are only ophthalmoplegia, some of the other muscles become involved later. The only other case that I have seen which resembles this one was in Oppenheim's clinic about a year and a half ago. He called it myasthenia gravis with ophthalmoplegia externa, but in that case the muscles concerned in the production of speech were also involved. For instance, the patient would be asked to count up to a hundred, and while the girl would count properly up to fifty, when she reached that number her voice would become almost a whisper, and she would gradually cease counting on account of the exhaustion produced. After allowing her to rest for a while she would regain her voice. Besides those mentioned there were no other symptoms. Oppenheim, as we know, was one of the first to describe this disease and he wrote an excellent monograph on myasthenia gravis. He examined her thoroughly, and failed

to find the myasthenic reaction; the ophthalmoplegia externa was not as complete as in Dr. Frank's case. It appears that the disease hardly ever remains an ophthalmoplegia externa without sooner or later developing the characteristic exhaustion in some other muscles.

Discussion on Dr. Frank's Paper.

Dr. Harold N. Moyer: At a meeting of the Neurological Society I showed two cases of this disease strikingly like Dr. Frank's case. Both of my cases had ophthalmoplegia externa, and one ophthalmoplegia externa and interna. One patient has recovered. He says he has been well for two years but there is a liability to relapse even after a considerable period of time.

I recently showed to the Chicago Neurological Society, one of these patients who says she is well. Both of these cases, as I have said, had eye symptoms. Both had ptosis, but the young woman at no time had complete loss of motion of the eyeball only a limitation. As she described it, she could turn her head, but not her eyes.

I have doubtless seen other cases before this symptom-complex was well described, but my recollection of them is not clear. I have only seen these two cases since the publication of Oppenheim's paper.

The disease in my cases was more rapid than in most of the cases named in the literature. The onset was rapid in the sense that the attack was well developed in two or three months, and had extended to and involved numerous muscles. The disease in one case occurred in 1903, about Christmas or New Year's, and she was unable to get on a streetcar or walk upstairs by the next April. About the middle of July she was very much improved, and she could walk for a mile or two. Both of these cases were characterized by one striking feature. They were sick patients in a general way. They seemed very much like cases of typhoid without fever. There was no elevation of temperature, the toxemia was marked, a thick coated tongue, grayish ashen countenance, rapid loss in weight, not accounted for by the impaired mastication. One of them had considerable difficulty in swallowing for a period of two or three weeks, but digestion went on all right. One patient lost thirty-seven pounds in weight inside of three months. I believe the underlying basis in these cases is a toxemia. It is a poisoning of the cells of the nervous system, and this accounts for their varying condition from time to time, and in the cases which I have observed there was a comparatively rapid improvement.

Dr. Sydney Kuh: We are indebted to Dr. Frank for the demonstration of a very rare type of a disease which in itself is not at all common, although it is very probable, as we become more familiar with the symptoms of myasthenia, we will see more cases than we have heretofore. There are only very few instances on record of myasthenia gravis in which the eye muscles alone were affected for a longer period of time, in most cases the difficulty with the extrinsic muscles of the eye was soon followed by weakness in other groups of muscles. Eulenburg has perhaps published the best example of pure extrinsic opthalmoplegia lasting for some time; and then there is the case of Charcot and Marinesco; another case by Karplus, and Wharton Sinkler has published one, and there may be one or two others of the same type. There was some difference of opinion, at first, as to the exact nature of Dr. Frank's case. A diagnosis of hysteria was suggested, and it is not at all improbable that quite a number of cases of myasthenia gravis are carried along for some time under that diagnosis. Here we see a paralysis which comes and goes, with absolutely no objective changes unless a battery be used and the myasthenic reaction discovered. These patients are more or less completely paralyzed, sometimes for months. Suddenly they get up and walk around as though nothing had happened, which suggests the possibility of a purely functional trouble. Still I believe the name suggested by Oppenheim, of bulbar neurosis, or of bulbar paralysis without anatomical substratum, is a misleading name.

Post-mortem examinations have yielded no uniform results. The one finding which has attracted the most attention is that of Weigert, who, in 1901, published a case in which he had found lymphosarcoma of the thymus gland, and what were probably metastatic tumors within the muscles. Since then several other authors have reported a similar state of affairs. Within the last few months Hun of Albany has described the findings in a case in which there was a tumor of the thymus gland with metastatic lesions in the muscle. Still a number of the cases examined since Weigert's publication, especially with a view to the discovery of such lymphoid infiltration, have yielded negative results—the majority of them. Just at present, I am nearly through with the examination of a case of myasthenia. One thing that has not been done thoroughly by me is the microscopic examination of the muscles. I have glanced at them, and if there is any lymphoid infiltration in them at all, it is very slight, and present only in a few of the muscles which were paralyzed. On the other hand, my case has shown changes just in that region of the central nervous system which we would theoretically suppose to be affected in the disease, and they are changes of a nature which the methods of examination ordinarily employed, those which stain only nerve elements, the Nissl method, the Weigert method, the Pal method, etc., would not show, so that there is a bare possibility that we are getting a step closer to the pathology of this disease. One thing, I think, can be said very definitely, that there must be some anatomical basis. Aside from the lymphoid infiltration, several other changes less constant have been described. One of them are nerve fibers in the affected nerves, very small in size, which lead to the conclusion that we might have to deal with a congenitally weak central nervous system. Oppenheim has described some other congenital anomalies of the central nervous system, supposing them to demonstrate congenital weakness. Then, hemorrhages have

been found in many cases, in one instance an old hemorrhage, which probably had existed before any of the symptoms of myasthenia in all other cases the hemorrhages were recent. They have been seen where death was due to asphyxia. They were present in my case, and that patient died from asphyxia.

Dr. L. Harrison Mettler: The general view is, as Dr. Moyer has said, that a toxaemia underlies these cases of myasthenia gravis. A case in regard to which I was consulted about a year ago followed shortly after an attack of scarlet fever in an adult. It was in an academy where there had been a mild epidemic. The patient, an instructor, had the scarlatina in an aborted form. Only a slight temporary rash appeared on the skin. He assisted in the formaldehyde fumigations, soon after which the first myasthenic symptoms appeared. The latter were typical in every respect. There was first ptosis on one side and then on the other. Then the bulbar manifestations appeared, causing labored speech and difficulty in swallowing. Gradually the motor phenomena appeared in other parts of the body. The rapid exhaustion of the muscles was the striking feature. A short walk, the eating of a meal, a prolonged conversation completely wearied the patient and quickly terminated. Another typical feature was the fact that at times the patient seemed perfectly well, but at other times he was so profoundly collapsed that it seemed he could not possibly live. The respiratory failure at times was especially alarming. There were no sensory symptoms. The trouble clearly was one of the lower motor segment. Whether the lesion in this mysterious disease is in the nuclei, or in the peripheral nerve strands, or in the muscles, has not yet been determined. The affection is most emphatically not a mere functional trouble, but in all probability an organic lesion of the lower motor neurones, caused by some profound form of toxemia.

In making a study of the cases in the literature, it has seemed to me that the peculiar characteristic of myasthenia gravis is something more than mere weakness. There is a kind of periodicity about the disease. It comes and goes, clinically at least; not regularly, but in a way most suggestive of the appearance and disappearance or attenuation of a virulent poison. In practically all of these cases, my own, those in the literature and those reported here tonight, there have been periods of profound weakness, then partial or complete recovery, then weakness again, and so on to the end. These spells are sometimes, of course, due to the exhaustion from exercise, but sometimes they come on when the patient is guardedly kept very quiet. Even severe respiratory collapse has occurred when the patient was quiet on his back. Ultimately these cases are all fatal, most of them dying of asphyxia. This sort of periodicity (and I use the word sort here for a special purpose, as myasthenia is not a pure periodical disease or neurosis) is a marked feature in its clinical course. It may be that it is not far removed from certain types of periodical paralysis with which we have long been familiar, both in connection with the ocular muscles and the muscles of the extremities.

The hypothesis has been put forth that in these periodical paralyses there is produced somehow periodically within the body a profound poison which affects the lower motor neurones, then ceases, then reappears and attacks them again and so on. It has been surmised that while the poison is produced continuously at times, it is produced in larger amount or with a higher degree of virulence than at other times. At times the clinical manifestations of both the periodical paralysis and the myasthenia gravis, all highly suggestive of the truthfulness of the above hypothesis. Positively, however, we know nothing about it.

At the present time myasthenia gravis must be regarded as a fatal disease, though its frequently prolonged course and its periods of apparent quiescence or disappearance may easily lead one to interpret as a cure what is merely a temporary remission. My own case died about nine months after the first appearance of the symptoms, though in that time he had had a number of remissions that had been imagined as possible recovery by his family and those in attendance.

Dr. Frank (closing the discussion): I would like to say a word in regard to paralysis of the intrinsic muscles. In a hundred and twenty-six references referred to, including Oppenheim's monograph, I found that in no case was there paralysis of the intrinsic muscles, and the light and accommodation reflexes were normal. In only one case, Brissand and Lantzenberg, and that was decidedly doubtful, was there any paralysis of the ciliary or sphincter muscles.

Tabes.

Harold N. Moyer, M. D., Chicago: This evening we have had several examples of rare disease. Dr. Sippy has told us that stricture of the esophagus is more common than we have supposed, but it is rare. Myasthenia gravis is among the exceptional affections. I wish to invite your attention briefly to one of the commonest of all nervous diseases, tabes, and I do so in a sort of fault-finding spirit. Of all diseases that reach the physician the least likely to be diagnosticated is tabes. More than half of all I see have escaped diagnosis until the disease has advanced beyond the golden opportunity for its arrest. It seems as if the profession does not recognize tabes until one can tell it on the street. This arises from certain misconceptions in the mind of the profession, a faulty technique, but especially because of an incorrect nomenclature and the conceptions that grow out of it, the term locomotor ataxia the most faulty of all. Tabes is not locomotor ataxia, nor is locomotor ataxia tabes, although you will find in most of the standard works that use the term tabes one of the synonyms is locomotor ataxia. It is a

wrong conception of the disease. A case of tabes may not have ataxia of locomotion at all.

The old description of tabes gives us three stages: First, the preataxic stage; second, the ataxic stage; and, third, the paralytic or terminal stage. Any such conception of this disease is bound to lead to error, as only a minority of the cases pursue such a course. The ataxia may be the first symptom. The pains may come at last. There may be no pain and no ataxia; the knee jerks may remain; there is no single symptom or a single conception of the disease that implies definite progress of the affection that is applicable to all cases. The old term, "progressive locomotor ataxia," is faulty, because many of these cases do not progress; they become stationary, or get better.

Do not dismiss these cases as hopeless. The great majority of them are not, and when you speak of tabes as an incurable disease, you are doing great injustice to your patient and an injustice to yourself; not that these patients will be put back where they were, but a large proportion of them, under intelligent treatment and wise management, will experience a very considerable amelioration in the disorder, perhaps its arrest, or what to them is a symptomatic cure. That, in a brief way, is the present attitude of those who see a good deal of tabes and who do not take such a pessimistic view of its outcome. The attitude of the profession as to the hopelessness of this disorder is a misfortune to the patient. He wants the help of the physician, otherwise he will drift off into the hands of quacks, and a large share of our quackery gathers around a disease, that is at all common, and which the profession has an idea is incurable. This disease is the golden opportunity for the quack, and his treatments are heralded as a cure for locomotor ataxia. That is the fault of the profession, in relegating tabes to the class of the incurable.

Why is the diagnosis of tabes missed so often? Because there is nothing obvious in the symptoms of tabes to which the patient will call attention at an early date. The motor troubles of the nervous system are not missed in diagnosis. In cases of progressive muscular atrophy, or infantile spinal paralysis, the differentiation may be difficult, but there is something in the condition of the patient that calls the attention of the physician to the fact that there is something wrong with his nervous system.

As this patient sits here, he does not present any particular signs of trouble. Apparently he is not a sick man. He himself would not tell you anything that would lead you to think he had tabes. He complains of some discomfort in his legs, and he had at one time some pains, but aside from that, there is nothing in his history that would point to a nervous trouble. What are his symptoms? He has no knee jerk; he has an Argyll-Robertson pupil, and he sways when his eyes are closed.

In speaking of examination of the eyes, I would call your attention to a frequent error. A hand is placed over the patient's eyes and, as he takes it away, glances at the pupil and says, they are all right. You can get a perfect reflex from this man's eyes, if you do it that way, as the accommodation is good. Testing with a match is useless with a patient like this; he looks at the match, and the pupil contracts. Shade the eyes, and have the patient look at a distant object. Be sure he is looking at the distant object, and then raise the hand and let the light strike the retina. If the pupil contracts, the light reflex is present. This is the most convenient way of testing. Another is to use a dark room, which is equally good.

In this case there is loss of the knee jerks and light reflex; he has slight swaying with the eyes closed, although this is less than it was. He has three of the cardinal symptoms of tabes. He feels at times as though his feet were asleep, but has no pains in the legs. The next most frequent symptom is not present at all. He has no trunk anesthesia. It is the only case I have seen in the last two or three years as far advanced as this which had trunk anesthesia.

The diagnosis was missed in this man's case because there is nothing in the symptoms that directs attention to the nervous system. The simple tests, such as here shown, should be made in a routine way, just as you examine the urine, lungs, and heart, in all cases of chronic illness. Examine the pupils, test the knee jerks, sensation of the skin, and make the tests for static ataxia. If that is done, you interrogate the sensory neurons of the nervous system. When the sensory neurons of the nervous system are diseased, at whatever level, that is tabes. If it happens to be that group of sensory neurons that come from the bladder, you will have bladder symptoms; if from the stomach, you will have stomach symptoms, or crisis. If it happens to be a group of sensory neurons from the larynx, you will have laryngeal crisis, and if the lower extremities are involved, the patient will have rheumatism in his legs, and so on throughout the whole list.

I brought this case here tonight not because it involved anything special, to make it a sort of text for what I had to say and to make a plea for a broader conception of tabes. I know of four cases of tabes that have been operated upon for pyloric stenosis. An examination of the neurons would have disclosed the true condition. In another case a normal prostate was removed.

Everything depends upon early recognition of these cases, before there is much destruction, at which time the treatment of the condition is comparatively simple. When the disease is extending or the process is at all acute, put the patient at rest. Take off strain and worry; give him alteratives,—by the latter I mean mercury,—which is the sheet-anchor in the treatment of these cases. I combine with it tonics. I look after the nutrition of the patient, and get him into the open air at the same time. The disease in this case had al-

ready existed two years before I saw him. I saw the patient two or three months ago. He has been put on alteratives. He can walk better than he could; he is stronger in his legs. Mercury in the treatment of tabes should be given with discretion. The mere doping of a patient with large doses of mercury is not the thing, but it should be given for its alterative effect, and it, combined with rest and proper management, together with correct hygiene and the elimination of strain, will afford great relief, if not a symptomatic cure. There is always the possibility of relapse, but this is true of many other diseases; when these occur the treatment must begin again. Even bed-ridden patients, if rested, built up and put on alterative treatment, can be so improved as to get out of bed and be taught to walk. Many of them live useful lives for years afterwards.

The prognosis of tabes is not as bad as the generality of the profession believes, and it is improved by the early recognition of its cardinal symptoms. This can only be done by a proper conception of it as a neuron disease.

Whenever you are confronted with an obscure affection of any organ, bear in mind that the sensory nerves that come from that organ may be diseased, the symptoms of which may simulate organic disease of the organ, while the true pathological changes are in the spinal cord.

Discussion on the Case of Dr. Moyer.

Dr. Sydney Kuh: With most of what Dr. Moyer has said I agree most heartily. There are a few points, however, in which I differ from him, and of these I should like to speak.

Dr. Moyer complains that tabes is frequently not recognized in the early stages by the general practitioner. That is undoubtedly true. Another equally common occurrence is that patients are sent to us by general practitioners, with a diagnosis of tabes, who have no tabes, because a thorough examination has not been made. I have seen cases of spastic conditions, cases of cerebellar ataxia, cases of progressive muscular atrophy and even of myasthenia gravis come to me with diagnosis of tabes, although in the latter the only parts of the body that were not affected were the lower extremities.

There is no doubt that the prognosis of tabes is much better than was formerly supposed. According to recent statistics, there had been in 60% of the cases observed spontaneous improvement without any treatment. Fully 75%, according to Diehler, improved under antisyphilitic treatment. One thing, however, should be emphasized, and that is this: It is not at all rare to see cases of apparently benign tabes which present only a few symptoms of the disease and in which one might be tempted to give a relatively good prognosis, yet after a short period of time symptoms of dementia paralytica develop. I have had that experience in several cases in a relatively short time.

I also agree with Dr. Moyer in his criticism of the method of testing the reaction of the pupils to light by uncovering both eyes and permitting the patient to converge when testing for reaction to light. I do not agree with him, however, as to the usefulness of the method which he has demonstrated here. He does not, in using that method, exclude consensual reaction, which may be present when reaction to light is absent. By exposing both eyes to the light at the same time—when only the left pupil is rigid to light—the light falling on the right pupil will cause a consensual reaction in the left eye, which would not respond to light.

A better method is to close one eye altogether and to shade the other eye in such a way that you can watch the movements of the eyeball and be certain that it does not converge when light is allowed to fall into it.

As to the treatment, there is no disagreement between us, and I advise with Dr. Moyer that moderate doses of mercury should be used. Excessive does of mercury, however, are liable to do great harm in cases of tabes. The influence of rest in advanced cases is frequently very striking and a combination of these two therapeutic agents often leads to most gratifying results.

Dr. Julius Grinker: There is no doubt that Dr. Moyer's warning not to tell a patient who has tabes that he is doomed, or that there is absolutely no hope for him, is timely. It is a grave mistake to tell patients that this disease is incurable. By experience we find many of these cases are extremely suggestible. Some of them are even hysterical. Often hysteria and tabes are found in the same patient. Patients come to us with symptoms of hysteria and upon close examination we find tabes in addition. Most of them can be influenced for good and evil. The reason why we have more success today with tabetics is not so much because we have better remedies, but because we have learned a great deal more about the natural history of the disease, and we tell our patients what we know. It comforts them, and that forms part of our treatment. It is suggestion, pure and simple. The following is an instance of almost unparalleled suggestibility in a tabetic: Several years ago I treated a lady for gastric crisis, and those who have seen the genuine gastric crisis of tabes know what it is. The suffering cannot be described. I attempted to relieve the attacks by means of suggestion, in which subject I was greatly interested at that time. After a few preliminary sittings during the inter-paroxysonal periods, I could stop or control those violent attacks. I would say to the patient, "I want you to sleep and sleep for several hours; when you awake you will be free from pain." She did so, and when she awoke there was no more gastric crisis. This was, of course, a remarkable case, but it demonstrates to what extent even a tabetic is suggestible. We should, therefore, hold out hopeful prognosis, where it is evident we can carry our patients along with proper treatment. Tabes is a disease of long duration. It may last a life-time. Recently I made a microscopic examination of the cord of a case of tabes, which I will demonstrate at some future meeting of this Society. The case lasted

for fifteen years. Patient died, not because of tabes, but because she lived under the most unhygienic conditions imaginable. Tabes, though incurable, is a disease which does not kill quickly. Sometimes it does not kill at all, and many tabetics die in the natural course of events from some other disease.

The essayist is certainly correct in his statement that tabes is not diagnosed early enough. However, there is a change for the better in this respect. The younger generation of doctors are educated to recognize tabes early. Many of the cases we now get from ophthalmologists, when they examine the pupils and optic nerve and find either a reflex indoplegia or an optic atrophy, they think of tabes, and refer the case to the neurologist. We also get cases from the neurologists, the internist, and from the stomach specialist. I was speaking to a physician who makes somewhat of a specialty of diseases of the stomach, and he informed me that since he had learned to test the reflexes and to look for tabes, he had found that many of his supposed stomach cases were not instances of stomach trouble at all, but of tabes. This is a sign of progress.

Perhaps one of the earliest symptoms of tabes are the lancinating pains, or, may be, the so-called rheumatic pains, and a patient is treated for rheumatism when in reality he has the lancinating pains of tabes. These patients usually have some paresthesia of the plantar surfaces and perhaps some ataxia.

A word or two in regard to treatment: I believe that the treatment of tabes with mercury is not the one that is accepted by the bulk of neurologists. One of the arguments advanced by those who contend that tabes is not caused by syphilis is that mercury and potassium iodide do good in nervous syphilis, but are absolutely valueless in tabes. While the argument is a poor one, the statement upon which it is based is correct. You may give mercury in small doses or in large doses; you may give potassium iodide in small or in large doses, and you do not influence the course of the disease. I believe the majority of tabetics are made worse by mercury. Give patients a hopeful prognosis, hygienic rules to follow, and treat the symptoms as they arise. Too often a patient suffering from tabes, who complains of lancinating pains, stomach, or other kinds of pains, is simply told that he has locomotor ataxia and cannot be cured. A patient with bladder difficulty must be warned not to over-distend this organ so as to guard against cystitis. Lancinating pains and symptoms referable to other organs must be relieved, but this is very often forgotten. Patients with tabes can be materially improved and their lives prolonged by treating their symptoms, by placing them under the most favorable hygienic conditions, and guarding against the complications of that disease. All these measures can only be carried out with benefit when a diagnosis is made early enough. The earlier, the better.

Dr. Moyer (closing the discussion): In the presentation, of course, of a few desolutory remarks like these, I did not attempt to cover the whole subject of tabes. I tried to bring out only the essential features of the disease.

I regard the remarks made by Dr. Kuh rather as an extension of my own than a criticism of them. The test I described is reliable and satisfactory in the majority of cases.

With reference to the administration of mercury, and referring to the remarks made by Dr. Grinker, I think I know syphilis of the nervous system when I see it. I know syphilis of the cord. I likewise know what alteratives do in cases of syphilis of the cord. I do not hesitate to give an ounce of iodide of potassium in a few days when I am dealing with these cases. I pour in my iodides in enormous quantities, and whenever mercury is indicated, I give it to them liberally. But I do not treat cases of tabes that way. In tabes I give mercury in what we might call tonic doses. Large doses of mercury are valueless. The drug should be used with care and in very small doses.

Concerning Ciliated Subperitoneal Cysts of Uterus, Broad Ligaments and Tubes.

By Anna E. Blount, M. D.

Synopsis.

1. Metaplasia of flat peritoneal epithelium, and that of other serous membranes, to columnar epithelium long known to pathologists, as in little cysts among splenic adhesions, upon the epicardium, etc.

2. Some cases of **ciliated** cysts of the pelvic peritoneum, found and briefly noted in the Berlin Kl. Wochenschrift, by Dr. Ludwig Pick, who suggested the subject to me.

3. First similar published cases found upon the tubes by Fabricius.

4. Related work done by Robert Meyer, Max Walthard, von Kahlden, Gustave Schickele, Siegfried Menman, Muscatello, and Max von Brunn.

5. Report of cases, illustrated by drawings.

6. Whence come these structures?

Answer: From the direct metaplasia of flat peritoneal epithelium. The embryonal property of the **pelvic** peritoneum, to produce cilia, is retained or reverted to, in certain cases.

Discussion.

Dr. Emil Ries: In 1897 I read a paper in Chicago on this subject, which was published in the Journal of Experimental Medicine (Vol. II, 1897). R. Meyer of Berlin in his recent paper on this subject in Virchow's Archives is kind enough to credit me with being the first one to give a full and correct explanation of these formations and quotes my views correctly.

I have since investigated this subject in numerous cases. At the time I first reported my findings I related some twenty cases. I have now at least 50 cases. It is interesting that this peculiar ability on the part of the peritoneum to produce such growths is not limited to the pelvic peritoneum. Since I have been removing appendices in the early stages of appendicitis, and have been examining appendices on numerous sections, I have found the same formations on

the appendix, even where the appendix was not attached deep down in the pelvis, so that the formations could not be said to be derived from the pelvic peritoneum. I have seen similar formations on gall-bladders I have removed, but in the gall-bladder there is peculiar difficulty in their explanation on account of a possible derivation from glands appearing under the serous surface of the gall-bladder. I have seen the same things in cases of pleurisy, on the tunica vaginalis testis.

There are a few things to be considered in connection with these formations which Dr. Blount did not mention, on account, I presume, of the shortness of time, but which I hope she will tell us something about in her closing remarks. The essayist mentioned psammoma bodies occurring in the ovary in connection with these cyst-like formations. We find psammoma bodies not only in the ovary, but in the tube where there is chronic inflammation. Whether they are only one more expression of chronic inflammation, or whether they stand in direct relation to these cysts, is interesting to find out. Supposing the papilla-like formation in the doctor's diagrams to be strangled off a little more at the base, we would then have a sort of polypoid growth. Nutrition is interfered with; we may get hyaline degeneration, and we know how hyaline degeneration lends itself to the formation of psammoma bodies.

Dr. Blount did not mention the work of Rossa, who examined similar formations, and referred their origin to aberrant adrenals. In some cases I have found a solid mass on the serous surface as large as one of the doctor's specimen's, or larger, where there seemed to be a distinct capillary loop in it, which agrees with the theory of their origin in the adrenals, but which would not agree with the formation of an endothelial bud or cyst.

I should like to hear the doctor give an account of her observations in relation to the adrenals.

Some observations have been made by Dobbert and others on what they called the formation of decidual nodes on the posterior surface of the uterus. They have described decidual nodes or nodules like these solid masses, and they tally with the description of peritoneal formations. What they called decidual buds, growths, or nodes, I would have called peritoneal nodes.

This question is interesting, because it has a bearing on ovarian pregnancy. Lichtenauer and others found decidua on the ovary, and the description of that decidua on the surface of the ovary is exactly like one of the essayist's drawings, so that it can be explained in a different way by the peritoneal epithelium. If this is not decidua, and pregnancy takes place in the ovary just the same without decidua, then the famous decidual reaction theory of J. C. Webster collapses. Dr. Webster used to consider ovarian pregnancy impossible, but it is characteristic of the strictly scientific work of Webster that he was one of the first to publish an undisputable case of ovarian pregnancy that was sent to him for investigation. He does not deny any longer that ovarian pregnancy is possible. A number of reliable cases have been described, one for instance by Dr. Van Tussenbroeck, in Holland.

The question of the nature of these nodules, cysts and ducts is interesting also in a practical way. We speak of the line of cleavage along which we dissect out organs. What is the line of cleavage? Take an organ that has been adherent, a tube, an ovary, or an appendix, and tear it out without paying much attention to the line of cleavage, and then make sections through the surface along which it has been taken out and you will find that line of cleavage precisely in the line of this epithelium. If you make numerous sections, you can follow that along the surface of such an adherent tube. At times the line is interrupted. Farther on you find the cleft again along that epithelial line. The separation of the adherent organ becomes easy when performed along this line of cleavage.

Dr. Blount (closing the discussion): I will only answer Dr. Ries to a slight extent. The psammoma bodies, I think I stated in my paper, we found everywhere where we found these cysts, and in places where we did not there were a great many of them in the interior of the tubes, which we were examining for this purpose. We found them on the surface of the uterus and on the surface of the tubes wherever there were peritoneal adhesions. I never had any adequate explanation of them. They seemed to me to be formed around an epithelial cell as a basis very often. I wish Dr. Ries could enlighten me as to the real origin of them.

I regret very much that I omitted so important a contribution as Dr. Ries' work on this subject, and I did not know that I was repeating in part a paper that had been read here, as I am sure I never saw it, and what is still more remarkable, is that I should have omitted an American reference in Meyer's articles, which I read carefully, but perhaps I simply neglected to look it up at the time, and forgot about it. However, I am glad to know that Dr. Ries has been working along this line, and I shall be delighted to read his paper, which I shall proceed to do as soon as I can find it.

I did not follow out the adrenal theory very much although I had something in my paper about it which I did not read. It is so aberrant that I never could get it into my mind; I never seemed to grasp it as a working possibility, and so I passed it by along with some dozen other theories as to the origin of these things without saying much about them.

The Induction of Labor at Term in a Case of Severe Urticaria with Edema of the Abdominal Walls.

Case of Caesarian Section. Case of Hematoma of the Vulva.

Effa V. Davis: Case (1). "K. L." Primipara. Age 30. Born in Russia. Married two years. Seen for the first time in my office June 21, 1904. Family history good except for asthma in mother. Patient gave history of chlorosis and frequent headaches. Physical examination. Height about 5 feet 7 inches. Weight over 200

pounds. Organs of chest, abdomen and pelvis normal. Pregnant seven months with normal measurements of the bony pelvis.

The patient was seen frequently and urinalysis made with negative results until about August 1st, when she reported a troublesome edema of the anterior abdominal wall midway between the umbilicus and symphisis. The walls were fat and thick and the area of edema was limited to a circle six or eight inches in diameter. The patient had been on her feet more than usual nursing her husband who had been quite sick for about ten days.

A urinalysis was made with negative findings.

Calomel and jalap with salines alternately were given for the rather constipated condition reported.

Rest in bed prescribed but in spite of vigorous treatment the oedema increased and an urticaria began to appear over the abdomen which spread gradually to the thighs and other portions of the body.

The patient was sleepless with severe headaches and suffered great discomfort from itching of the skin.

Her pulse rate became high and at the end of two weeks of treatment with increasing discomfort a diminishing specific gravity of the urine and stubborn sluggish bowels I determined to induce labor fearing eclampsia or death of the foetus as the result of the extreme toxemia.

The date of the confinement had been fixed for the 25th of August. I was called to see the patient early in the morning of the 16th, and found she had passed a restless night with all her symptoms exaggerated the urticaria was spreading to the face and hands and the edema covered the whole lower half of the abdomen and had appeared in the feet and hands. Pulse 100 and irritable. I summoned a nurse and assistant and after anesthetizing at 10:40 a. m. began to dilate the cervix which had become practically effaced the patient being so near term. After manual dilatation of the cervix which took one hour and fifteen minutes a severe hemorrhage began owing to a low attachment of the placenta posteriorly.

The forceps were then applied and the head brought down firmly in the pelvis and fairly well rotated. The head was large and hard and considerable traction was required to effect its descent. The anaesthetic was now stopped and the patient was encouraged to use voluntary efforts with her pains which came at long intervals and were feeble in character.

At the solicitation of the family physician who had been asked to assist, the forceps were removed about 1:30 p. m. and the patient placed in bed with the hope that she would deliver herself. After 2½ hours effort the head remained stationary and the caput succedaneum, which had appeared early had increased markedly in size and with failing strength of the patient, forceps were again applied under anesthetic at 4 p. m. and the child delivered safely at 5.30 p. m. It weighed nine pounds and four ounces and was in good condition except for some slight bruises from the blades of the forceps.

The mother was very uncomfortable from the rash during the following night and it increased for two days till her body was completely covered. External applications of sulphur water were used and many other lotions with little effect.

The temperature remained normal but pulse rate was high for one week when the urticaria began to fade away.

Cathartics were given with much better results than before labor and alkaline diuretics increased the flow of urine. Albumen not being present at any time.

The convalesence was normal after the first two weeks except for a scanty flow of breast milk.

The questions for debate in this case is the significance of urticaria as a sign of puerperal toxemia and whether the induction of labor was justifiable for such a condition.

I believed the mother and infant were both in danger of serious accident in this case if they had been left to nature's forces.

The presence of edema of the lower abdominal walls in fleshy women is frequently present near the end of pregnancy where the tension is great from hydramnion or a large foetus but urticaria as a sign of toxemia in pregnancy is rare. That it is a sign of toxemia cannot be doubted and involving the skin in so extensive a manner as in the case reported crippled one of the important organs of elimination to a degree that must have thrown a dangerous burden upon other organs.

The patient I considered a good subject for eclampsia owing to her age, primiparity, obesity, history of chlorosis and headaches.

The family physician thought me hasty in inducing labor when no albumen was present in the urine prefering himself to "wait for eclampsia," as he said, and then interfere but experience has proven to me many times that a serious toxemia may exist sufficient to destroy the foetus and not produce eclampsia in the mother so it was in the interest of both patients that interference was begun.

Case (2). "M. I." Primipara. Age 33. Born in Austria. Entered Chicago Maternity Hospital June 13, 1904. Date of expected labor August 24, 1904. Gave personal history of rickets in childhood and credited that disease with stunting her growth, as she grew very slowly after her sixth year. Menstruated for the first time at 17 years. Present general health fairly good, except for a mild anaemia and periodical headaches. Employment, fine needle work and embroidery.

Physical Examination. Height, 4 feet 5 in., weight about 100 pounds. Poor muscular development, with flat undeveloped mammae. Pendulous abdomen. Pregnant uterus well swung forward and foetus lying transversly. Measurements of bony pelvis: Anterior spines, 23 c.m: Crests, 24 c.m; Trochanters 28 c.m; External Conj. 16 c.m; Diagonal Conj. 10 c.m: True Conj. 8 c.m.

The patient remained under observation till

she fell in labor August 29, 1904. The contracted rachitic pelvis with the patient's poor muscular development and the uncertainty of breast milk caused me to consider a Section as the best mode of delivery in this case. The growth of the foetus indicated a good sized infant even at the 7th month, and the thickened symphisis tilting outward made the true conjugate possibly less than 8 c.m. The muscular power of the woman was feeble and the pendulous abdomen already showed separation of the recti, which would have handicapped her expulsion powers in a hard tedious labor.

The induction of labor at the thirty-fourth or thirty-sixth week would have given us a delicate infant to feed artificially, which in itself is quite a proposition when the infant's life is truly taken into consideration. The case was examined by one of the hospital staff, who agreed with me that the Caesarean Section offered the saftest delivery. The case was allowed to fall in labor, which she did on the 29th of August at 12 noon. The foetus was presenting by the right shoulder in left dorsal position. During the preceding week the vertex had been over the inlet, but the pelvic basin was so flaring that the transverse position was the one most easily taken by the foetus.

At 6 p. m. the patient was anesthetized. A vaginal examination revealed the cervix fully dilated. Sack of waters protruding in a long sausage shaped pouch with portion of the vertex rolling above the brim. Shoulder above to the right. With the assistance of Dr. Keyes, the house staff and Dr. Brunson anaesthetizing the abdomen was opened at 6:10 p. m. the uterus delivered and incised, vertically, cutting down on the placenta which was attached anteriorly. Child delivered at 6:30 and placenta five minutes later.

The uterus was closed by buried interrupted catgut sutures (No. 2) and the peritoneum by continuous fine catgut. The hemorrhage was slight and controlled by hot sponges applied to the body of the uterus by the assistant. The abdominal wound was closed with silk worm gut through and through sutures after uniting the peritoneum with running stitch of catgut, and the patient was placed in bed at 7:40 in good condition.

Except for some trouble with the anaesthetic early in the operation, which delayed the work somewhat the patient endured the operation splendidly, coming out of the ether in a stronger condition than most patients do from a long tedious labor.

She made an uneventful recovery, wounds healing by first intention and was dismissed well with her baby on the 23d day.

The child, a male, weighed at birth eight pounds and three ounces with the following measurements. Length 19½ inches. Head diameters: Bi-parietal 9 c.m.; Bi-temporal 6 c.m.; Sub-occipito Bregmatic 10 c.m.; Occipito frontal 12 c. m.; Occipito-mental 13.5 c.m. Circumferences: Sub-occipito Breg. 35.6 c.m. Occipito-frontal 36.8 c.m.

The mother's milk was scanty as predicted and artificial feeding was required to supplement her efforts to nourish the child, but he was so strong and hardy that he gained steadily in weight while under our care.

100 State street.

Through the courtesy of Dr. J. M. Low, I wish to report an interesting accident which occurred in one of his cases recently delivered at the Chicago Maternity Hospital.

The patient, a young primapara was delivered with forceps by Dr. Low, after a tedious labor, with but a moderate degree of traction.

The patient, having become exhausted by a tedious first stage. The head remaining high, and the anterior lip of the cervix remaining thick elongated and edematous.

Directly after the patient was placed in bed she began to complain of a pain in the rectal region and it became so severe at the end of about three hours that I was summoned by the nurse to her bedside. I found a large hematoma formed in the right labia majora extending up along the walls of the vagina and distending the perineum out to the buttocks to the size of half an average foetal head. The tissues were glistening with the tension and the patient complaining bitterly. Her pulse remained good and after determining that the tension was not increasing slight pressure was applied and no treatment given except absolute quiet.

The patient gave a history of a Laparotomy, done 1½ years ago for relief of a retroverted uterus with adhesions—some small cysts of the ovaries and a diseased appendix.

Unfortunately I have not been able to get the operators history as to the exact method employed for the correction of the uterine displacement. The question of a possible fixation with forcible separation of the vaginal wall from the surrounding tissues as a cause of the hematoma is of interest.

The patient is making a good recovery without interference, the tumor having greatly decreased in size being now only about one-fifth its original size.

This paper was discussed by Dr. R. W. Holmes. (The discussion has not been forwarded.—Ed.)

Dr. Davis (closing the discussion): In regard to the remarks of Dr. Holmes as to the first case with reference to taking off the forceps, sometimes we do things we do not intend to do or would not do if left to our own judgment, by the presence of other physicians. In this case it was my judgment to keep the forceps on and deliver the patient, as it would have saved my time and the patient a good deal of strength. There does not seem any good reason why we should put a patient back to bed when there is any danger of eclampsia. I induced labor because I thought this patient in such danger. She had headache, was of a very nervous temperament, and shortly before this case I had one that did go into eclampsia from a long tedious labor.

In regard to the measurements of the pelvis in the Cesarean Section case, I measured the pelvis carefully a number of times, and I must say I could not get anything but ten in the diag-

onal, taking off two centimeters for the thickness of the symphysis, which I thought was enough, although it might have been a little less.

MEETING OF NOVEMBER 9, 1904.

A regular meeting of the Chicago Medical Society was held Nov. 9, at which the following program was presented.

Cases of Pus Infection Simulating Pulmonary Tuberculosis.

Robert H. Babcock, A. M., M. D.: The first case, which opened my eyes to the possibility of a person ill with septicaemia, being thought to have tuberculosis, was in a young married woman whom I saw in consultation in 1897. Two physicians of great experience and wide reputation had seen her, and pronounced the disease tuberculosis. The information at first conveyed to me by the attending doctor was in effect that the patient had a cough with high fever, and emaciation, and had been ill for nearly two months.

After noting the hot, dry skin, marked loss of flesh and rapid feeble, pulse, I proceeded to examination of the chest. Nowhere was there pronounced dullness, yet both lungs were defective in resonance, the left, slightly more than the right. The breath-sounds were harsh and of diminished intensity, but without distinct rales. Nevertheless, here and there was what I should call a suggestion of moistness. The voice was too weak to produce distinct vocal fremitus. In short, the lungs were not normal and yet did not furnish definite signs of disease.

I then turned to the abdomen and discovered that instead of being thin and sunken, it was distended and appreciably resisting. Neither spleen nor liver could be palpated, and instead of hyperresonance, percussion yielded dullness of an irregular outline over the lower zone, in the hypogastrium as well as in the iliac fossi. The state of things was readily shown not to be due to free fluid in the peritoneal cavity. Here, then, was a condition that did not fit in, with what one would expect in a person having pulmonary tuberculosis. The clinical picture as shown by the height of the temperature, was not that of incipient tuberculosis, nor was it a more advanced stage of tuberculous disease, since, although the fever was severe and wasting marked, there were no evidences of breaking down of pulmonary tissue.

I considered the possibility of acute miliary tuberculosis, but reflected that in such a case there ought to be more definite pulmonary symptoms, as dyspnoea and perchance an occasional rale, or some area, however small, of distinct dullness with bronchial breathing.

Moreover, there was no perceptible splenic tumor and no appreciable involvement of bronchial or other lymph glands. On the whole, therefore, I decided before committing myself to a diagnosis to enter more minutely into the history than I had yet done. In particular I felt I must get at the condition responsible for the abdominal findings, and which, as I suspected, might be responsible for the whole thing.

The attending physician did not have a very clear knowledge of the woman's previous health, being evidently dominated by the notion of it being a case of tuberculous disease. To make a long story short, it was ascertained that some eight or ten weeks earlier she had had an abortion, which had been followed by a foul vaginal discharge. Two or three weeks thereafter she had been taken suddenly ill with pelvic pain and fever. Although there had been an insignificant cough previously, still her real illness dated back to the abortion.

In brief I gave it as my opinion that there was no tuberculosis about the case, but that it was one of septicaemia, originating in a pelvic peritonitis, with purulent and circumscribed exudate, and that the indefinite lung findings were due to some pulmonary change resulting from her infection and feeble cardiac action. I urged the immediate services of a surgeon, who should operate if he thought best. My advice was acted upon and the operative interference, although too late to save life, fully confirmed the correctness of my diagnosis.

At a later period I was called to examine the lungs of another patient, a man, who, sliding down from a stack of hay had struck on a pitchfork, the handle of which had penetrated the anus and caused severe injury. The trauma had been neglected, or improperly treated, and a suppurative peritonitis had eventuated. In this case the lung findings were very similar to those described in the first case, general loss of resonance with feeble, rather harsh, breath-sounds, but no rales.

For a considerable time I was at a loss to explain the pulmonary findings in these two cases, but I now believe they were the result of pulmonary anaemia. Such an explanation seems in accord with the experiments of Grossman and Basch. These experimentors found that anaemia of the lungs leads to diminution and relaxation of the organs with passive decrease in the capacity of the thorax and potential increase in the excursion movements of the lungs. In a state of profound prostration, together with enfeebled circulation, as is the case in severe and prolonged blood-poisoning, the resulting pulmonary anaemia would show itself by relaxation of the lungs and a diminution of their volume. The prolonged repose in bed would produce feebleness of respiratory movements, notwithstanding the fact that potentially these are increased. Consequently these factors would lead to impairment of resonance and an alteration in the quality of the breath-sounds. It might well be, therefore, that mislead by a faulty or incomplete anamnesis the examining physician might at first be puzzled to account for the pulmonary findings and might regard them as suspicious, to say the least, of tuberculosis.

The remaining three cases to be briefly narrated were ambulatory and consulted me because of symptoms, slight cough, a low grade of fever and loss of strength, which were feared due to incipient pulmonary tuberculosis.

The first case of this series was that of a senior medical student, who was sent to me by

one of my colleagues in the fall of 1902, with the request that I look over his lungs. The meagre history elecited, was of progressive loss of weight and strength, with a slight febrile temperature ranging from 99.5 to about 100.5 and of a dry, hacking cough which, although insignificant in intensity, was yet thought suspicious when considered in connection with his other symptoms.

The young man was tall and slender (5 feet 11 inches), being decidedly below proper weight (125 pounds), his chest being thin and narrow. Inspection and palpatation were negative, but percussion showed rather defective resonance over both apices, especially the right. On auscultation the breath-sounds were broncho-vesicular, without rales. The temperature was about 100 F. and the pulse was about 90, of low tension. There was nothing definitely indicative of pulmonary involvement, and yet taken in connection with the general symptoms, the findings rendered me very suspicious of incipient tuberculosis.

He was advised to record his temperature carefully for a week, have examined any sputum there might be, spend as much time as possible out of doors at rest and take an abundance of milk and raw eggs. I did not see him again for three weeks, when he reported his temperature as having run about as before, his sputum negative but, because of the raw eggs, as he thought, an obstinate diarrhoea had developed. My second examination of the chest simply confirmed the original findings, while examination of the abdomen detected merely a scaphoid belly with some gurgling in the colon, but no tenderness.

He was then advised to go into a hospital where his friend, Dr. Bayard Holmes, might have him under observation. The advice was followed, and as the result the diarrhoea ceased, but the character of the symptoms led to a more thorough investigation of his case. As a consequence it was ascertained that during the month of June previous he had been ill with symptoms that indicated appendicitis. It was also discovered that he had a leucocytosis which, together with abdominal pain and tenderness, pointed plainly to some other than a tuberculous infection. The location of tenderness and pain seemed to indicate gall bladder disease, but at the operation it was found that the appendix was situated behind the lower border of the liver and was adherent to the surrounding parts and filled with pus. The patient not only made a complete recovery, but is now engaged in active practice of his profession, and is in robust health, having gained twenty-five pounds or more in weight.

The next case had to do with a tall, thin, narrow-chested book-keeper, who came to me because of stomach trouble, increasing loss of weight and strength and a dry, hacking cough that made him and his friends uneasy. Aside from the facts just stated he gave a history of an illness, nearly three years before, which he called rheumatism. Examination of the chest disclosed impaired resonance behind on the right, chiefly in the scapular and infrascapular regions with broncho-vesicular breath-sounds but no rales. He had a slight elevation of temperature and looked poorly nourished.

In spite of these facts I could not convince myself that the lung findings were responsible for his general symptoms, and therefore inquired minutely into the so-called attack of rheumatism. This elicited certain facts that satisfied me of the rheumatism having really been a biliary colic, which was repeated several times during a period of weeks. I therefore made a careful examination of the abdomen and had no difficulty in detecting a tumor of the gall bladder. Believing this was an empyema of this viscus, and finding that the man had a pronounced leucocytosis, I referred him to a surgeon. An operation was performed soon thereafter, which not only confirmed my diagnosis but completely cured the patient.

He was recently re-examined by me and found to have gained nearly thirty pounds, and to have entirely lost the slight dullness previously detected in the right lung. This convinced me that the impairment of resonance formerly noted depended upon the gall bladder disease. It may have been the direct result of mechanical pressure from the tumor, but was, I think, a manifestation either of pulmonary hyperaemia resulting from vagus irritation or more likely of the so-called lung reflex which Abrams has shown may result from sensory irritation as of the abdominal wall.

Irritation of the skin of the anterior surface of the belly causes a demonstrable but transient elevation of the lower posterior border of the lung on the corresponding side, and since in this case dullness existed only behind it may be, perhaps, that the presence of the distended gall bladder occasioned a persistent lung retraction with corresponding impairment of resonance.

The third case was that of a woman of 33 who was referred to me in January, 1904, because of symptoms thought, perhaps, due to some pulmonary involvement, possibly tuberculosis.

Cough was trifling, and as well as all else was ignored in the presence of attacks or rather exacerbations of pain, referred to the lower thoracic and upper abdominal zones chiefly on the right side. Her description of her suffering made me at first very suspicious of gall bladder disease. A clear anamnesis was most difficult to obtain, but at length I learned that some eight or nine years before, and soon after her marriage, she had had inflammation of the ovaries, as she said, which symptom-complex had been repeated two years ago and had necessitated local treatment.

My examination disclosed a temperature of 100.4, slight dullness with broncho-vesicular breathing in the left upper lobe, both in front and behind, and tender, slightly enlarged fallopian tubes.

Being doubtful of the precise nature of this case, but suspecting pus-tubes in addition pos-

sibly to incipient pulmonary tuberculosis, I instructed her to send some secretions from the vagina for examination and to keep her temperature chart for a week. The vaginal secretions did not show gonococci, but her temperature record was entirely too erratic and high to correspond to the changes in the lungs. Her leucocyte count, moreover, was 12000. I consequently referred her back to her physician for further examination, and possible operation, on the uterine adnexa. I have since learned that a surgeon removed both tubes and ovaries as the pyosalpynx had involved the ovaries. The patient made a good recovery, has lost her cough, and enjoys good health, with exception of shifting pains in the shoulders, which her physician regards as rheumatic.

With the foregoing cases in mind I can recall three others which at the time were regarded as tuberculosis and were sent to Colorado, but which, I now suspect, were not tuberculosis. One of them, a lad of about 15, subsequently died in the care of Dr. G. F. Gardiner, of Colorado Springs, and the other two were unmarried women in the care of Dr. S. G. Bonney. In neither of them, if I rightly recollect, were positive signs of pulmonary disease discovered, although their temperature and other constitutional symptoms were highly suggestive. Their subsequent history is not known to me.

In conclusion, I should like to dwell on the importance and value of a leucocyte count in cases with symptoms suggestive of incipient pulmonary tuberculosis, yet without distinctive physical signs. In early tuberculosis the leucocytes are likely to be either not increased or actually diminished, whereas in cases of pus infection there is leucocytosis, although this may be slight. In consumptives with mixed infection, of course, there may be an increase in the polymorphonuclear cells, but in such cases physical evidence of pulmonary disease is such as to leave no doubt of its nature.

It is unnecessary to state the value, and, as a rule, the safety of the tuberculin test in doubtful cases of the kind here narrated. It would have been resorted to, had the diagnosis not been established by other means.

The cases that furnish the text for this paper are reported not because unique, but because on the contrary they are believed to represent a rather frequent class of cases, and it is hoped that their recital may aid others in avoiding some of the pitfalls that beset the differential diagnosis of incipient pulmonary tuberculosis. We all recognize the close relationship existing between disease of the lungs and derangements of circulation within the abdominal cavity, but these cases teach how great may be the interdependance existing between primary disturbances within the abdomen and the state of the lungs apart from obvious mechanical pressure. In other words healthy lungs and normal lung findings can only be expected in healthy bodies. If in endeavoring to pass judgment on an individual's lungs the physician confines his attention to these organs he will find his field of view too limited to permit of a really intelligent opinion.

(This paper was discussed by Dr. Bayard Holmes. The discussion has not been forwarded.—Ed.)

WEST SIDE BRANCH.

Officers.

President.....John A. Robison, 297 Ashland Boul.
Secretary.....J. J. Alderson, 264 S. Halsted st
Delegate to Council.....A. I. Bouffleur, 100 State st

The first meeting after the summer vacation of the West Side Branch of the Chicago Medical Society was held at the Cook County Hospital, October 20, 1904, at 8.30 p. m., the president, Dr. John A. Robison in the chair.

The retiring president, Dr. I. N. Danforth, gave a short address on the work of the Branch during the past year, thanking the members for the courtesy shown him during his term of office and suggested changes that would be in his opinion for the benefit of the Branch and promote its usefulness.

The president-elect, Dr. John A. Robison, gave a short address outlining conditions in our district, our excellent opportunities for good work, urged physicians to attend and take part in our meetings, and to do their duty as citizens especially in bettering the sanitary conditions of the West Side.

The program committee having decided to take up the subject of haematology in a series of papers and demonstrations were pleased to have the study introduced by Dr. James B. Herrick. —See page 619 for Dr. Herrick's paper.

We had a pleasant smoker and social time at the close of the meeting.

Adjourned to meet November 17, 1904.

EVANSTON BRANCH.

Regular meetings are held in Evanston each month.

Officers.

President ..... P. D. Harding
Secretary ..... G. W. Boot
Councilor ..... S. V. Balderston

The Evanston Branch of the Chicago Medical Society at the annual meeting for the year elected officers as above.

The address of the evening was given by Dr. Wm. E. Quine on **The Morals of the Medical Profession.**

Dr. Quine emphasized the fact that the profession in general seemed to consider a breach of the code a greater sin than drunkenness, sexual immorality and carelessness in the examination and treatment of the sick. He suggested that it would be well to pay less attention to differences in creed and more attention to the moral state of physicians who might wish to join our medical societies.

NORTH SIDE BRANCH.

Regular meetings are held monthly. Membership .

Officers.

President ..... David Lieberthal, 103 State st
Vice President...Chas. I. Whalen, 34 Washington st
Secretary ..... R. H. Herbst, 517 Dearborn ave
Delegate ..... R. W. Holmes, 387 N. State st
Alternate ..... C. S. Williams

The first regular meeting of the North Side Branch of the Chicago Medical Society was held Thursday evening , Oct. 20, 1904, at the Chicago Academy of Sciences.

The officers above named were elected for the ensuing year.

The treatment of Puerperal Fever by Hysterectomy was discussed by Drs. Carl Wagner, Anthony, Holmes and Thompson.

Dr. Williamson reported a case of **Acute Hemorrhagic Pancreatitis.**

NORTHWEST BRANCH.

Regular meetings held the first Friday evening of each month at the Northwestern University Settlement Building, cor. Noble and Augusta street.

Officers.

President ..... H. M. Luken, 826 N. Irving ave
Vice President ..... R. S. Michel, 689 N. Robey st
Secretary-Treasurer..E. E. Henderson, 201 W. Erie
Councillor ..... J. V. Fowler, 312 Grand ave

The regular meeting of the Northwest Branch was held Friday evening, November 4th. There were thirty-two physicians present. Dr. E. A. Fischkin read a paper on the **Diagnosis of Cutaneous Syphilis** and demonstrated a number of cases. He also exhibited a great variety of photographs of cutaneous syphilis in its many forms and other cutaneous diseases it is liable to be mistaken for. The paper was freely discussed by a number of the members. It was decided that the next meeting be devoted to the treatment of syphilis.

SOUTH WESTERN SECTION OF THE CHICAGO MEDICAL SOCIETY.

Regular meetings are held monthly at 540 W. 63d st. Membership 70.

Officers.

President.....F. L. Rose, 5420 S. Halsted st
Vice President.....Wier
Secretary-Treasurer..C. H. Lovewell, 5500 S. Halsted st.
Official Reporter, T. C. McGonagle..5504 S. Halsted

At a meeting of the Southwestern Section of Chicago Medical Society, held Tuesday evening, Nov. 1, 1904, Charles H. Miller presented a case of **Syphilitic Rarefying Osteomyelitis.**

Mr. President and Colleagues—Fractures, spontaneous in origin, and by this we understand those due to violence insufficient to break a bone of normal strength, may be due to general causes:

(a) Atrophic changes which in turn may be caused by disuse or trophic changes due to nervous tissue disease in the former, with gradual uniform disappearance of the inorganic and organic bony material in the latter to unusual absorption of the calcium salts, and is especially frequent in locomotor ataxia, appearing before the incoordination and in general paralysis.

(b) In old age, due to disproportion of inorganic and organic substance.

(c) Rickets, due to increased thickness of epiphyseal cartilage and deepest layer of periostium. Green stick fracture and epiphyseal separations are the variety here met with.

(d) Osteomalacia. In this the compact tissue softens and disappears, the haversian canals and medullary space grow larger and larger. In the severer forms but a shell of osseous tissue remains thin as paper and filled with reddish pulp, the whole unable to bear the slightest strain.

(e) Fragilitas ossium, or an inexplicable condition in apparently otherwise normally healthy individuals when the bones both fracture and unite easily of locally acting causes.

Inflammatory Conditions.

(a) Osteomyelitis involving the periostium or the medulla, the result of infection—where the processes of destruction are more rapid than those of repair—have been known to occur from rarefying osteitis, gradually eating away the interior of the shaft without any compensating deposit being formed on the exterior.

Caries involving the shaft of long bones of this character is so infrequent as to be of little importance, the seats of predilection being the ribs and odontoid process.

Periostitis rarely causes fracture per se when the simple infectious variety is considered.

(b) Malignant growths, especially sarcomata of the central variety less important are metastatic carcinomata, which might readily be overlooked, especially if the primary lesion is a scirrhus of the breast. Apart from the local disease there is no evidence that the general cachexia of these diseases involves the integrity of the skeleton.

Enchondromata, cysts and aneurysms are less frequent locally acting causes the latter from pressure absorption.

(c) Syphilis may induce local caries, but much more frequently it is due to the gummatous infiltration of the periosteum and bone. In hereditary syphilis this is peculiarly likely to appear late after the sixth year and may develop late after the twenty-first year, and are prone to involve the upper and lower extremities. Histologically the gumma are soft bodies from microscopic size up to several centimetres in diameter. On cross section they show a grayish white homogeneous appearance, presenting in the center a caseous substance and peripherally a translucent fibrous tissue which is composed of granulation tissue formed of rounded cells. Owing to insufficient blood supply the developing tumor undergoes coagulation necrosis and breaks down to be either absorbed or, if superficial, to ulcerate.

The following is a description of the case I desire to present:

Mrs. X., 30 years of age; 1 healthy child 10 years old; no miscarriages; F. H. negative.

First consulted me in the summer of 1902, for what was thought to be a sprained ankle, of which she had the symptoms and had actually hurt her foot on alighting from a car; usual treatment, including a steel instep, proved unavailing. Absence from the city now for a year caused me to lose sight of the case, but the trouble increased, and she has been under treatment ever since. So this may be regarded as the date of onset or at the time she was 29 years of age. Complaint when I next saw her, June 17, 1903, was pain in right leg mafked lameness, simulating the gait of unilateral hip dislocation; lost 15 pounds in past year; weight now 120 pounds; pain in leg grows worse as well as locomotion more difficult.

Examination, some emaciation—acneiform eruption on face and back; marked tenderness over isolated areas of the crest of both tibia and right humerus at junction of upper and middle thirds; pain and tenderness evidently in the bone. Patient states feet swell somewhat, especially at night, occasionally enough to pit; walks with the peculiar gait previously described, but patient is hardly able to say why she limps; has slight goitre which has never caused any trouble; blood HGBN 90%; corpuscular elements normal; genitalia and their functions normal; chest normal; urine normal.

Diagnosis: Tertiary lues; osseous gumma of humerus; right femur left tibia and both patellae.

Treatment: Mercurial inunctions daily; K. I. internally, 60 grains daily.

July 18—Walks better; feels improved; mentally more hopeful.

July 24—Stumbled in going down short flight of steps and, though caught by husband, so she did not fall, suffered fracture of right humerus at junction of upper and middle thirds and right femur at same location; this occurred at South Chicago. Removed by ambulance to hospital where, under CHCL3, fractures were reduced and the leg put up with extension; taken home three weeks later; leg and arm in plaster; apparently uniting normally in about the usual time. She went walking first with crutches, later discarding them; treatment maintained. About the middle of February, 1904, all symptoms became aggravated, especially the walking was poorer and strength in limbs was less; the arm remained normally strong. During the period the patient complained much of gastric disturbances and headache, which she attributed to the medicine. The fracture healed with 3 cm. shortening.

April 20th, when attempting to sit in a chair, the thigh gave way at site of previous fracture, apparently due to muscular action, as there was no violence. Under CHCL3 it was reduced and put up with extension. May 17th extension removed and cast adjusted; medication continued but K. I. increased; somewhat intermittent inunctions employed. Again this fracture seemed to unite fairly promptly, but with about 4 cm. shortening. About June 1st she was allowed to use a wheel chair into which she could transfer herself without using her limbs.

June 13th, in attempting to get from her chair to the bed, owing to some slight miscalculation, some muscular exertion was enacted, with the result that again the thigh was fractured at the same place, and the left leg at junction of lower and middle thirds also gave way completely (a point of maximum tenderness). Both fractures occurred without injury to soft tissues. Again under CHCl 3 splints and extension were arranged, the patient now requiring a fracture bed to render possible proper hygienic care.

Again they united fairly promptly, though the patient was kept in bed twelve weeks or, on account of great fear of other fractures, for two months. She has again been using the wheeled chair.

Status praesens; site of fracture right arm palpable; function normal; right leg 5 cm. shorter than left. Tender nodes on crest of the tibia, which are tender to pressure, and which on pressure may be depressed, showing softening underlying the rigid crest. Left leg, same condition, is present, but more marked; this pressure is painful and the pain produced by such examination persists for some hours. Both feet swell to the point of pitting on pressure; more marked at right but does not wholly disappear by morning; general health is good; is believed to be gaining in weight somewhat. The urine is normal and no cardiac signs of disease have been discovered.

Latterly there has been increased frequency of menstruation, the function reappearing about every three weeks. This was thought to be possibly due to her medication, as she has for weeks been taking about 200 grains K. I. daily. The other treatment has been the intermittent use of mercurial inunctions and recently syrup of hypophosphites.

Besides Dr. Miller's paper, Dr. Wier showed a case of lupus erythematosus in a woman, which had resisted all treatment for ten years, but which yielded very promptly and completely to the X-rays; also a case of lupus vulgaris in a man which the doctor told us was growing rapidly less under the use of the X-rays.

Dr. Lespinasse demonstrated a new operation for phymosis.

Dr. Miller gave notice of a proposed change in our by-laws which will be voted upon at our December meeting.

President Rose appointed the following banquet committee:

Drs. Morton, Lovewell, Jr., and Wier.

There was an attendance of thirty-two members and a number of new faces were seen.

CHICAGO PEDIATRIC SOCIETY.

Officers.

President ..... S. J. Walker, 394 E. Chicago ave
Vice President...F. S. Churchill, 394 E. Chicago ave
Secretary-Treas..Emma M. Moore, 6025 Prairie ave
Member of Executive Committee..A. C. Cotton, 1485 W. Jackson Boul.

A special joint meeting of the Chicago Medical and Chicago Pediatric Societies was held September 17, 1904, in honor of Dr. Escherich

of Vienna, who addressed the meeting on the subject of **Tetany.** A second special joint meeting of the two societies was held September 28, 1904. Dr. Wm. P. Northrup, professor of Diseases of Children, Bellevue Hospital, New York, read a very interesting paper on the **Diagnosis and Treatment of Pneumonia in Infants and Young Children.** Dr. Northrup predicts that in two years the treatment for pneumonia will be cold, fresh air and cold water.

The first regular meeting of the Society for the year was held October 18, the subject of the evening being **Summer Diarrhoea.**

Dr. A. C. Cotton and Dr. Julia D. Merrill gave a review of the literature on **Summer Diarrhoea.** A paper, entitled **Some Bacteriological Observations in Summer Diarrhoea,** was read by Dr. George H. Weaver.

Dr. May Michael and Dr. Bathena Coone gave a clinical report of 114 cases of summer diarrhoea.

Dr. J. C. Cook reported 18 cases and 10 cases in which the anti-dysinteric serum had been used were reported by Dr. Wm. J. Butler.

Dr. May Michael was elected to membership and the name of Dr. Josephine Young was proposed for membership.

Adjourned on motion of Emma M. Moore.

PHYSICIANS' CLUB OF CHICAGO.

The first meeting of the season was held by the Physicians' Club of Chicago at the Sherman House on the evening of Thursday, October 20. The first part of the program consisted of a beefsteak dinner. The subject of the discussion following was "Unionism; Is It Adapted for the Medical Profession?" A reporter for an evening paper had obtained an inkling of the purport of the subject and, without seeking enlightenment from any officer of the club or, as far as known, of anybody else, proceeded to write a "story" about the purpose of the doctors to form a union with the advice and under the tutelage of Mr. Michael Donnelly, President of the Butchers' Union. Pursuant to its custom, when discussing sociological subjects which have more or less of interest to members of the medical profession, of inviting people to participate who are supposed to know something about such subjects, the board of directors had invited Mr. Donnelly on the one side and Mr. John M. Glenn, Secretary of the Illinois Manufacturers' Association, on the other, to address the club. Dr. Alfred C. Croftan and Dr. George F. Butler, members of the club, also gave addresses. Dr. Henry Baird Favill had promised to preside but, at the last moment, sent word that he was delayed by a late train and could not reach the city in time. His place was ably filled by the Treasurer, Dr. Joseph Zeisler. Mr. Donnelly was unavoidably detained in Cincinnati by union business and sent his regrets. Although many feared that they would have to listen to the play of Hamlet, with Hamlet left out of the cast, yet the other principal speakers and the spicy discussion made the evening interesting to those who attended.

A report of the proceedings follows.

The chairman, Dr. Zeisler, introduced Mr. John M. Glenn, Secretary of the Illinois Manufacturers' Association, who read an address.

Views advanced by me tonight are entirely personal and in no way reflect the policy of the organization with which I am connected. I take it you gentlemen who compose the medical fraternity are serious in requesting the discussion, and that you really want to know if there is anything in unionism that can be of legitimate use to the medical profession in effecting an organization.

The question that immediately presents itself is, What is your object? Do you all want to get on the same equality? Do you believe in the theory that the man with the greatest intelligence, with the greatest development of mind, with the greatest energy and the capacity for making money should hold back for the man less favored with intellect and less willing to exert himself? If the purpose you have in mind is to do good; if it is to progress; if it is to elevate your standard and if it is to do something for humanity, then it is my judgment you should organize—form a union. On the other hand, if it is to see how much money you can make for the least possible effort; if it is to see how large a practice you can have on the least possible application and study; if your object is selfish and for the aggrandizement of yourselves, then I say for heaven's sake abandon the idea. The medical profession of this city has produced too many great men—men who have advanced the cause of humanity and have made wonderful discoveries, and whose hearts have been filled with love for others and a desire to do good for gentlemen to take a step backward.

It is just a little surprising that you should invite this discussion, as unionism has not made sufficient progress to be the example of men who are supposed to have the education, learning and judgment that should be possessed by the average physician.

The great conflicts that the union has waged during the past two decades, it does not seem to me, warrant you in turning your faces to the bloody battle fields upon which it has fought or look to the desolate homes and broken hearts and countless graves for a foundation upon which to build your organization. It may be argued that all the sorrow and all the distress that has been brought about by the countless strikes was necessary in order to reach that peaceful state for which all are striving. I'm willing to admit that there are honest men in the union whose purpose is noble and who really believe the good things it is said are in store for those who will put unionism ahead of every thing else that is dear can be attained by the present policy. The great religious and civil conflicts of the world may be pointed to by way of illustration to sustain this position, but the greatest man this age has produced, Abraham Lincoln, used all his power and all his strength of character to

settle the issue over which the two sections of the country were contending without the loss of blood, and his policy was the subject of the most severe criticism from people who should have known better and who all their lives had been preaching love one another. I believe that if the country had allowed Abraham Lincoln to have had his way the Civil War might have been averted and that a million lives would have been saved, and God alone knows how much suffering would have been prevented, to say nothing of the millions of dollars worth of property that was absolutely wiped out.

To get down to the real facts regarding unionism it is my judgment it needs a higher order of intelligence. You immediately say that is true of capital. I'll grant it, but in nothing like so great a degree as the other side, and I want to call your attention to the fact that capital spends millions of dollars every year to raise the intelligence of the community in the money it pays to maintain the educational system. There is no question but capital is cold, but capital is timid. Capital is never the aggressor in a controversy with labor. I don't believe the union will permanently succeed under the present policy that seems to be supported by a majority of its leaders. I believe its only hope of success is in intelligent and conscientious action.

The union proceeds along the line that all its members are of equal intelligence, and that all have equal ability to perform their work. It seems to me this theory will hold better in unskilled labor than in skilled, and I think experience has proven it, and that the theory will even hold still better in skilled labor than it will in the professions where the measure of service is brains. Surely the man who studies and works and toils by night and by day to attain skill and knowledge does not want to place himself on an equality with the men who has not the mind, or who does not want to put forth the effort, or who has been so unfortunate as not to have had opportunities.

There is one thing for which I do not believe it is right to entirely condemn the union, and that is the conduct and leadership of some of its officials. There is nothing so dangerous as organization in the hands of an unscrupulous men, and from my observation there is no kind of an organization in which it is so easy for an unscrupulous man to blaze his way and eventually obtain the scepter. The labor union has to carry more dead weight: it has more drones in its camp; more men who are ready to prey upon the prejudice of others than any other class of organization. We all know that the church, the organization which is based on unselfishness and love, and through which men are supposed to reach the eternal goal of everlasting happiness, has disciples among its followers who are designing and deceitful.

History of unionism shows that it is intelligence that succeeds. The greatest union organization that has yet been produced is the Locomotive Engineers. I do not remember the technical name of it, but it has not had over two strikes in the half century of its organization. Its men are of a high order of intelligence. They have, with the exception indicated, always been able to adjust their troubles. Now it is true that it is not to be supposed that all men in other lines of trade are at once to be advanced to the intelligence of engineers or other classes of railroad help, but I want to ask, Has the American Federation of Labor ever done anything to advance the intelligence of the Union? It may be that it has, but if so, it has never been brought prominently to public attention. I am informed it is today spending over $20,000 a month in organization alone.

Just here I want to call your attention to another thing that seems to men to be an awful sin of unionism. I refer to the cultivation of a spirit of unrest, disloyalty and dissatisfaction that is bred in a factory that is under the domination of the union. Will you tell me how a man can make a plant go if the men who are working for him are disloyal? Can you make money if every man is doing as little as he can and hold his job? If a man does not like his place, if he does not like his surroundings, if his pay is not satisfactory, why doesn't he get out? If he gets out he has a right to talk. Some people seem to think a corporation or an individual is operating a plant simply to furnish work for a lot of people. Let me tell you that any one that has that idea is mistaken and any one who thinks capital can be made to work along other lines than cold business principles might just as well try and reverse the sun. If capital is not employed profitably in any particular branch of industry it will abandon that industry and one field of employment now open to the laboring man will be closed to him. There are enough obstacles in the way of business success to excuse the intelligent labor leader to hesitate to add to the employer's difficulties by trying to force him to carry on his business on other than sound economic principles. An honest man will handle capital honestly and a man that won't handle it honestly will be made to do so by the laws of his country or he will be punished. Every time capital gets over the line you hear of legislation.

It is much better policy, in fact it is just as good policy for capital to treat its employes right as is the old adage, "Honesty is the best policy."

Now there is one other thing to which I wish to call your attention and that is the right of every man to work whether he is a union man or not. This question involves the eight-hour day and it involves the foundation upon which we all must stand—the observance of law. This country, to paraphrase Mr. Lincoln, will not long endure if either capital or labor disregards its laws and if both unite in a disrespect of law it will quickly crumble. The law must be obeyed and the people should see to it that every man who disregards it is held to a strict account. As to the eight-hour day an employer has a perfect right to give it if he can afford it and every employer or set or employes have a right to get it if they can, providing they don't "bust" the shop, or disobey the law. I don't believe any man ever succeeded who made up his mind that he would not work to exceed any given number of hours per day and I don't believe any phy-

sician will ever succeed who when he is building up his practice makes up his mind he will not make night calls or make a call unless he is sure of his money. No man ever made a great success in any calling in life that did not work, work, work. There is nothing that counts so much as everlastingly sticking to the game. In the great industrial world and I mean the factory, the transportation companies and the farms you will find men in command who started at the very foot and many of them were men who belonged to the union, but never one who had an eight-hour badge pinned to his breast.

Unionism under the leadership of some of the men now in the saddle is practically treason for the reason that they place obedience to the demands of the union above obedience to the laws of the land. Under these leaders it has been observed by all that when the law of organized labor comes in conflict with the law of the land organized labor's position is that the law of the land must yield. Many have been prone to overlook this phase of the case because they have felt that it was due not to an active belief in treason but to the ignorance both of the leaders and the rank and file. At least it is charitable to state it that way.

It is strange that the other labor organizations do not learn a lesson from the Locomotive Engineers. Could a more liberal or broader stand be taken than was taken by the engineers when the question of the open shop came up in a recent controversy with the Manhattan Railway in New York? Here is what they said to the officials of the company when the question of employing non-union labor came up:

"We believe that every man should have the right to work under any and all conditions. We do not object to you employing non-union engineers nor do we object to working with them, but as an organization we request and desire our agreement with you to read, that non-union engineers shall receive the same wages in every particular that we do."

I hope that I have not been too critical and that I may have said something in this paper that may be of value. I believe that good can come of unionism and I believe it is every one's duty to help his fellow man all he can, but it does seem to me a step backward for the medical profession of this city to model its organization on the foundation of unionism, when unionism has fallen so far short of the standard.

The Chairman: I believe I speak for those present when I say that the idea of forming a medical union was not seriously entertained by this Club when we put this subject on the program for tonight. We have to have some subjects that will give us a little fun, and I can confidently say that the time when physicians will form a union is far distant.

We shall all be glad to hear from Dr. Croftan as to how he feels on the subject.

Dr. A. C. Croftan (from the stenographic report): When your Committee honored me with a request to open this discussion, I assured your Secretary that the only position I could defend would be "Why the Medical Profession Never Should be and Never can be Unionized." I regret the absence of Mr. Donnelly, because I was anxious to base my discussion upon his exposition of the advantages of unionism for butchers. As it were, I will have to imagine what he would probably have said, and speak somewhat disconnectedly, because there is no testimony that I can attack in rebuttal.

A union, as I see it, is a combination of many individuals possessing the same qualifications and following the same pursuit; its object is mutual benefit for all the members composing the union and the advancement of their common welfare; by implication the idea of offense and defense against those outside of the union is also conveyed. The notion of defense implies antagonism, and a struggle with opposing interests. In fact, without such opposition, there would be no need of banding together for strength, and hence the opposition, passive or active, to the individuals forming the union is the chief **raison d'etre** of unionism.

The question arises, is there sufficient opposition, sufficient antagonism to us physicians, as individuals or as a class, to warrant our banding together for our mutual benefit and for common defense? On first sight, it would seem almost ridiculous to assume that the people at large, whose physical well-being is professedly in our hands, and who turn to us when suffering, should entertain against us any feeling of antagonism, but if we carefully analyze the attitude of the public towards the doctors, we will find that it is not one of unqualified respect and admiration throughout, and by no means one of unmixed gratitude and unreserved confidence. Many people take a weird delight in claiming that they "fooled the doctors." They don't always praise us for what we do, and have even been known not to be backward in upbraiding us, even of refusing to pay their bills. I think the attitude of the public at large toward the medical profession can best be characterized as one of **amused suspicion.**

This attitude of individuals, while displeasing and not infrequently insulting, and occasionally unprofitable, is nevertheless not dangerous as far as the welfare of the profession as a whole is concerned, until it takes the form of active opposition on the part of legislative and judiciary representatives of the people at large. There is a growing tendency for legislative bodies to formulate laws inimical, or at least not favorable, to the best interests of the profession, and it is notorious that judge and jury are in the majority of cases **a priori** prejudiced against the claims of a doctor. We all know how difficult it is for a physician to secure an impartial jury verdict in medical suits. We all know of at least one judge in this city who is practically on record as never allowing a physician the fee he is forced to sue for. The press, finally, the exalted voice of the people, and the moulder of public opinion, how they delight in distorting the truth when it comes to matters medical!—largely, let us concede in justice to them, from ignorance, largely because they are so coached by eminently respectable members of our own guild, largely because they must have a sensation at any price, in order to sell enough papers

to induce patent medicine venders to advertise in their columns.

The important questions now arise: (1) What are the causes underlying this peculiar attitude of the people at large, that I am convinced exists? (2) What is the remedy—and is this remedy a Union of doctors?

The first thing to determine is whether the cause is inherent in the people or in the medical profession; and if in the latter, must the fault be attached to doctors as individuals, or must it be sought for in the inherent defects and limitations of the practice of medicine?

I am going to take the gentlemen of the laity, the common people who are here tonight, deeply into our confidence, and I am going to concede that the public is not guilty, and that the fault lies in part with us as individuals, in part with the practice of medicine as such, with all the absurdities and inconsistencies that still cling to it. For after all the practice of medicine, as we may read in the latest and largest French Encyclopedia, is "an art based upon conjecture," and the physician is one "who sometimes cures, often relieves and always consoles" (I doubt whether our patients would be willing to pay for consolation at three or five dollars a console.)

I think it is time that we should teach the people to divorce the practice of medicine from all the mysticism, all the semi-religious flimflam, all the bluff, all the conscious and unconscious lying and deceiving that has clung to it for all these centuries. We owe the people a square deal. We need not put it to them brutally, because they probably would not understand, and might shy off in still greater numbers than they do now to the fakirs and divers pathists; and to the Christian Scientists and the Dowieites, who pray for them and prey on them outside of our ranks. But we could break the news gently, could predigest it, sugar-coat it, and make it pleasing to the taste; and I think that is what we are beginning to do.

No, the people are not to blame. The practice of medicine is full of conventional lies; the people are beginning to appreciate this, and refuse to be lied to any longer—even conventionally. The trouble with us is that, to use a business expression, we fail, in the majority of cases, to "deliver the goods," and that nevertheless we receive pay for what we contract to deliver or at least what our patients **think** and are led to believe we agree to deliver. It is in this particular that our profession differs radically from any other profession or business. A client employs an engineer or an architect to repair a broken bridge or reconstruct a dilapidated building; the damage is inspected, a plan of repairs with all specifications submitted, a fee agreed upon, the job let to the lowest competent bidder, and the work done; when the transaction is closed the bridge or the building is repaired; the "goods have been delivered." How different it is many times with us. A patient comes to us with an organic lesion of the heart, or some degenerative disorder of the nervous system; we know perfectly well that the damage itself is beyond repair; and still **we** must undertake the case with a full consciousness of our limitations, and however much we may regret these limitations, we rarely take the patient or the family fully into our confidence. We cannot very well do it, because the human element enters so strongly into our work; we **want** to help, and we don't want to confess even to ourselves, much less to the suffering, afflicted mortal, who looks to us for aid, how little we can do. The engineer would say, "Throw the thing on the junk heap and get a new one," but we can't say that to a man whose wife is sick!

So much for the competent practitioner who can diagnose his cases, who realizes the limitations of his art, and who, for reasons of humanity, does not tell the truth. He is, further, often deterred from being quite open with his patients by the knowledge that they will turn from him, who is honest and open and who **knows,** to one who is untruthful and crafty, even though he does know, or who is ignorant and hence blissfully hopeful and willing to promise anything, in order to pocket the fee and to take full credit if by some chance the case recovers. In the latter case the honest physician, who has made a guarded prognosis, is held up to ridicule; he has been "fooled," and the blatant ignoramus who made a good guess is extolled as a wonderful physician, "who pulled the patient through." I have often wondered whether we more often reap extravagant praise for cures we didn't perform or whether we are more often execrated for sins of omission or commission that we did not perpetrate.

You see, therefore, gentlemen, that two elements enter into this conventional lying that the people are bginning to resent—on the one hand, the human side that induces us to hide the limitations inherent in our art; on the other hand, the craftiness or the ignorance of many of our colleagues, who would for gain surely neutralize any educational effects exercised by us upon the lay mind by open and honest statements.

Now, what is the remedy for this unsatisfactory state of affairs? How can we and the public who employ us work harmoniously together, so that there may be no misapprehensions, no false pretenses, no bluff, no dishonesty, no conventional lying between physician and patient?

For only in this way can the opposition of the people to the profession, and the heart-breaking discontent that has possessed itself of the soul of many an honest and honorable physician be stopped. Can a Union of doctors accomplish this, or a Trust perhaps? Decidedly not.

The reform must begin with individuals among us; "ideals must become personal before they can become communal." Herein lies the fundamental difference between Mr. Donnelly's butcher workmen, or any other trades people, and the members of a liberal profession. The former all perform the same work in the same way; for instance, they rip the bowels out of a cow—one man can do this as well as another, and all differences in skill can be adjusted in such a manner that the standard of the least skilled becomes the universal standard. If Mr. Donnelly's men are working

for $2.00 a day, and get the notion into their heads that they should receive $2.10 for disemboweling a certain number of dead cows, why then they are perfectly justified in trying to enforce that demand—and to unionize for the purpose, if that is the best way to do it. In other words, they form their own estimate of the value of their services and they attempt to force this estimate upon their employers. And, let us bear in mind, they certainly deliver the goods—those cows have their bowels out when Mr. Donnelly's men are through with them.

Not so with us—unless we choose to except the surgeons—not so with the medical man. He can't **agree** to cure his case, consequently he can't put a fixed value upon his services, nor ram his own estimate of what he **thinks** he can do down his employer's, i. e., patient's, throat. On the other hand, he never wants to feel that he can't do a little better than his competitor, he does not want to be judged by the standard of the least trained, least skilled, least competent of those qualified (?) to practice medicine. His standard is not the lowest, but the highest. A physician should be and usually is an individualist, his patients want **him**, not any doctor, and the estimate he can place upon his services is altogether governed by the laws of supply and demand, as far as his particular, personal services are concerned, not as the services of doctors as a class may be rated!

One feature of unionism appeals to me, and I consider it applicable to us. I believe in limiting the apprenticeship, limiting it in the sense that we make the entrance into the profession of medicine difficult. Let no one be consecrated a minister to the sick unless he be duly qualified by training, by education, to recognize and to understand disease and to manage the individual afflicted with disease. He should first thoroughly understand the technic of his work. Let him not, however, be a mere practitioner of medicine; let him be a treater of the sick, a man of tact, a man of honesty, and a gentleman. I am a great believer in the element of **adaptability** as an entrance requirement into any profession; in the university career, in the diplomatic service, and in the army and navy career, this point is very seriously considered. Why not in the medical career?

I believe, furthermore, in a united profession with a central autonomy vested in a Court of Honor that should be national in scope; a tribunal before which can be hailed the unscrupulous and the incompetent alike, a body that must qualify and may subsequently disqualify a physician; a body with power to restrain and disbar and publicly brand as unworthy members of our profession, those who stoop to venal commercialism, the givers and the takers of commissions, the writers of decoy letters, and all those who utilize the newspapers for blatant self-aggrandizement—also the unscrupulous surgeon who, for the sake of the fee, opens an abdomen for gastric crises in locomotor ataxia, or removes a healthy appendix—in short, a body intended to elevate and to hold up the standards, to give publicity in medical matters when it is to the best interests of the profession and the public, and to impose secrecy when the honor and the standing of the profession demand it.

With a clean and competent and honest, but of necessity limited, number of men, constituting our profession, with a central governing board high in the esteem of all, there would remain for us the chief task to be carried out that alone can improve our usefulness to the community at large, and to ourselves.

I mean the increase of medical knowledge, the combating of that tendency to therapeutic nihilism that continues to emanate from the State of Maryland and other localities along our Eastern seaboard, and that casts the blight of its sterile skepticism over all this land. Given peace among us and good-will to all men, and the horrid and exhausting chase for the "damned guinea" will no longer have to be so strenuous nor so grinding; we will all have enough to live on, and in addition enjoy the inestimable satisfaction, that should compensate us for many material deprivations, of belonging to an honored and an honorable profession. We would then find, all of us, more leisure and more inclination to prosecute original research at the bedside and in the laboratory, and above all to cultivate therapeutic resourcefulness and thus be enabled ultimately to really more often "deliver the goods" our patients clamor for.

We as physicians, who are in daily contact with the sick, who are painfully awake to the need of new light on a thousand clinical problems, could then assume the task of experimental clinical research that we Americans are temperamentally so eminently fitted for. The more imaginative, the more inventive among us would surely solve many problems that are crying for solution. Nearly every **great** medical discovery has been made by a practitioner of medicine and not by any of your cloistered incumbents of a university chair, whose horizon is circumscribed, who are not in contact nor in sympathy with living problems, who are capable only of pin-point concentration on some specialty. We physicians must attack the problems seriously, that for the present are being played with by a small army of half-trained research fellows under the guidance of a few capable specialists of the above type, and of some medical men who never did nor never inspired any research work, but whose social or official connections have enabled them to secure the endowment of research institutions where science is "fostered" officially by our honorable multi-millionaires. Little of value has ever emanated from such institutions; what they need is fewer buildings, less real estate, less of the flabby complacency of mediocrity—more or the driving discontent of talent; more brains! Unfortunately the more virile thinkers on this side at least of the Canadian border are not attracted to places were much independence must be sacrificed to the glory of a millionaire in steel or oil.

All this will be changed, I hope, some day. We will have a **united**, but not a unionized,

profession—free, liberal, honest and honorable; each member carefully chosen, in touch and in sympathy with the people, holding high the banner of Humanity, and of Science, and governed by a code of ethics that shall not be stilted nor artificial, but that shall be synonymous with the tenets of that ancient and honorable, aristocratic, international **Brotherhood of Gentlemen!**

Dr. George F. Butler, for the past five years a non-resident member, but now happily returned, also read an address.

The trade union is a survival of the old guild, the three stages of which were apprentice, journeymen and master of workmen. The same stages were observable until quite late in the nineteenth century in various branches of the English-speaking medical profession. Of these degrees, Marryat (Japhet in search of a father) and Lawson Tait give interesting and humorous accounts.

The three stages in the medical profession were the apprentice (of which the survival today in the preceptorship exercised over the medical student), the journeymen, which survive in the licentiate, master and bachelor, and, finally, the doctorate, which gave the right to teach.

Useful as these stages or degrees were, the undue necessary increase of medical colleges in the United States caused their practical disappearance. The New York County Medical Society, incorporated in 1806, still retains some traces of the supervisory powers of the old guild. The medical societies of the eighteenth century, beginning with the New Jersey Medical Society of 1766, still more resembles the old guild.

Some of these guilds still survive in English-speaking countries, but have become merely parasitic, although in London they rule the old city by electing the Lord Mayor at Guild Hall annually.

With the advent of the speculative middle man, the rigid apprentice system and the pride in skill of the old guild were destroyed, whereupon the medical profession as a body, which has always been opposed to purely commercial practices, broke off from the other guilds. In the medical profession, however, at no time could the hours of labor and their termination abruptly be regulated by purely monetary consideration, nor at any period was the medical guild as regards the public "a servant grafted in my serious trust and therein negligent," a la plumber. The medical profession in its attempts to establish a standard of fees has followed in the footsteps of the old guilds, but therein has met with no greater foes than the trade unions, which hold fee regulation as an ideal, and a principle. Most trade union members in English-speaking countries outside of the United States, as well as in Scandinavian, Italian, French and German-speaking countries, are members of mutual benefit organizations who employ what might be termed a "scab" doctor, and pay starvation prices for medical services, medicines included. Although American unions war on plutocratic monopolies, they support medical institutes advertised in the daily press, wherein broken-down "scab" physicians are "sweated" for the financier at the expense of the public, and of the regular medical profession. The workman who demands from twenty-five to fifty cents an hour for himself supports the "five-dollar-a-month-no-cure-or-money-refunded" charlatan, who is hired by banks or wealthy speculators.

The same non-union spirit in unions appears in their support of grafting politicians at the expense of medical men who are fighting for starving working people in charitable institutions.

In 1885, the Chicago medical profession made an onslaught on the "stockyards hogs" and other vile food furnished the insane by the stockyards combination (see special report, Illinois Board of Charities, January 28, 1888). The representative of the combination was a "Knight of Labor." When the female assistant physician held up during an investigation by the County Board the iron-ringed, catarrhal snout of a pig as a sample of the food given the insane, the distinguished "Knight" directed the discharge of the physician and the retention of the cook. This "Knight," it is said, objected to a contract for court house repair because the contractor employed convict labor, whereupon a new contract was made which gave the aforesaid contractor $30,000 for taking down certain pillars, and $40,000 for letting them alone. Such a "representative" has not infrequently been popular in trade unions, particularly in New York, but no such member of "Boodle's patriot band,

Fat from the leanness of the plundered land,"

ever appeared in the leaders of medical societies. If it is desirable to unionize the medical profession, it might first be well for union labor to support the union principle of fee regulation, by withdrawing patronage from advertising charlatans, contract and department store doctors. Another evidence of sincerity and reciprocity in the same direction would be withdrawal of support by unions of all politicians who place non-medical men in medical positions.

So far as the unions contain the old ideals of the guilds which exacted tests of skill for entrance into each stage, it is desirable to unionize the medical profession. I am opposed to any union designed for individual benefit.

If we can raise the standard of the profession and thereby benefit the race by our greater skill in hygiene, sanitation, prevention and cure of disease, then the profession should be unionized. American labor unions have missed one of the chief points as regards purpose, and that is improvement of their line of industry. Under the present system there is no incentive for an individual to acquire special skill in his line of work. It seems to be a settled principle of labor unions that the unskilled workman should be placed in skilled occupations.

Think, how absurd it would be if medical men should adopt the rules of the labor unions. The eight hour a day is impracticable in medical practice, only at an enormous cost of human life and human suffering. This is peculiarly true of

obstetrics, where the union man is particularly apt to grumble when the medical man does not give more than twelve hours a day of his time to hysteric explosions.

To unionize the medical profession along such lines as these would destroy all the benefit individuality has created for the uplifting and improvement of the race.

The fight for elevation of the medical profession has been a fight for trade union ideals as evolved from the old guilds, but we have had no greater opposition than that of the trade union members themselves, who have to so large an extent patronized the doctors, opticians and druggists of the department stores, and thus encouraged cheap and unskilled medical service.

"Much has been said of the power of knowledge; no one has calculated the power of ignorance." It is because in our enlightened country all things go—yes, going and gone, that men who might subserve some creditable purpose on an ash wagon by the twin whirligigs of time and fate, like Sancho Panza, are occasionally raised to eminence as a doctor, labor leader, Congressman, or president of steel trust. So, who knows but that in this age of sin and selfishness, bluff and boodle, the medical profession will degenerate into a trade union.

A Crying Need.

Union, of course; that's what we need.
"Haec docet," says the fable—
'Twill teach us how to keep things straight,
Recorded by the label.
We'll label all the union kids—
There can't be any others,
Quite legal, till a union's formed
Of fathers and of mothers.

The cards are issued when the pact
For union's fixed, and all straight,
Then in due course one member's made
A real walking delegate.
And true it is, as must be said,
Unmoved by fear or favor:
As in all other unions, he
Will do none of the labor.

Oh! yes, we need a union, much;
A good strong Federation,
Amalgamated, and all that,
Throughout this busy nation;
And a combine with the druggists;
Also the undertakers,
And have a label that shall read:
"The Brotherhood of Fakirs."

We'll go on sympathetic strikes,
When people who are wealthy
Will not get fractured limbs, and sick,
But stubbornly keep healthy.
And if the poor should need the help
Of our brave profession,
Then we could kick for higher pay
And form a big procession.

In union there is strength, and this
Is said too, of the onion;
A woman is a lady oft,
And oft a sloven runnion,
Pray let us as becomes a guild
In practice of a science,
Spurn unbefitting, shuffling ways,
And bid cheap claims defiance.

The Chairman: I have never heard of unionizing poets and I am sure as long as the medical profession has such poets there is no danger that we shall be unionized. I imagine this is only a sample of the spirit throughout the profession. So far the discussion has been one-sided and no discussion is interesting unless there are two sides. As I look around I do not feel like picking out a man to take the other side. I do not know, gentlemen, but I have an alarming suspicion that we have one man among us, whom I frequently hear speak on these occasions, who has shown a socialistic spirit, and we should all like to hear from Dr. Courtwright.

Dr. C. W. Courtwright: Lest there should be some alarm felt I will say that there is not the slightest danger of a union in the medical profession. There is no danger of unionism because in the medical profession there is not the slightest coherence in anything—while as an organization we do not do anything for the individual, —we do not do anything for each other, in fact. Somebody has said that "Hell and harmony both begin with H," and "Wherever two or three of us are gathered together," there is "the devil to pay." This typifies medical harmony. I, too, believe in education, I wish I had a better education myself, yet some of the best practical physicians I know of, the best surgeons, the best specialists, are not men who have spent a lifetime in getting degrees and studying sciences which have no bearing whatever upon the life work of the physician. I have seen eminent gentlemen from abroad, and they are cultured, it is true, but ordinarily, if they were put through the State Board examination suddenly, they would not pass it, if hell down to good marking any better than we ourselves. A man forgets during the last five years of those long courses what he has learned the first five years, and when it comes to that wonderful test, the State Board examination, which lets him practice in Illinois and shuts him out of Indiana, I doubt if there are twenty men in Chicago today who could jump into a State Board examination after practicing five years, much less 10 or 15 years, and pass with a credit of 20 per cent. I could not pass tomorrow, and I have studied a good deal, graduating twice from good colleges.

So much for that everlasting grind which takes the best years of a man's life, the very youth and prime of his days, his best power and working ability and keeps him working for years on no-essentials. As I said before, some of the best medical men I know have not been through that grind. At the same time to those who receive that sort of thing, and absorb it mentally, there is no objection, but as to making it a condition before a man shall take up the

study of medicine, I cannot agree entirely with that.

Now as to the idea of unionism: As I said before, there is not the slightest possibility of anything approaching unionism in medicine, but there might be an organization of the medical body for the good of the medical profession, for its welfare and material improvement. So far, I know of no organization in the medical profession that **helps the medical practitioner at all.** I think we need help; I often feel as if I needed help, the help of a great body back of me in my work; but we do not have it. So far medical organizations simply make it harder for a man to get there, and if he has a family to support, as most medical men have, it makes him work hard to so support himself that he may be able to improve, and be a better man. And what is the consequence? Scandals as that tonight alluded to, come up in the profession. Why? Because men must live, and their families must live, their children must live, and the practitioner who sees his patient pay large fees to the specialist in one line or another, surgical or medical, when they cannot pay him ordinary bills for monthly attendance, is very likely forced, by his necessities, to drive bargains with somebody who won't take everything and leave him nothing. Why? Because the road is so hard. And **this** scandal is the outgrowth of that organization of the medical profession which makes of the rank and file, the fellows "on the firing-line," so many bricks and so much mortar, to build a pyramid at the top of which stand a few manipulators, directly in the lime-light, getting all the prestige, reputation and emoluments, which may arise from the organization.

The Chairman: This evening I heard a very clever little anecdote illustrating unionism. I do not think it right to monopolize that story, so I will ask Dr. Corwin to tell it to you.

Dr. A. M. Corwin: I thought I was very kind when I told the Chairman this little story, that he might use it if he wished to introduce our friend, Mr. Donnelly, who is not here. The story runs like this: A friend, a German on the South Side, who is a strong union man, having a birthday party, thought to deck the table with a well garnished pig's head. So he went to his butcher and told him of his wish, and the butcher said, I have just the thing. It is fine and quite fresh, and he brought it out. But is this union killed, my friend? I don't know about that, said the butcher; if you want a pig's head, here it is. But you know my wishes in the matter, and I don't propose to have anything to do with a pig's head that is not union killed. The butcher scratched his head a moment, then said, I'll fix it, and took the pig's head into the back room. When he returned, he said, "It's all right now. What's all right; did you find that the pig was union killed? No, but I fixed it; I unionized it. How? I took out the brains.

We are all of us more or less pig-headed about certain things, but claim to have a little gray matter left, and by that token might not make good union men in the ordinary sense. But, gentlemen, it is the glory of this club, and always has been that it has a platform so fraternal, so hospitable, broad, deep and sound that any man who is sincere and sane and who has a message, can come here and talk to us. It is in this fraternal spirit we have been glad, sir, (Mr. Glenn), and delighted to listen to you. We do not care whether we agree with you or the other fellow or not. We listen to you with courtesy standing upon that platform, and we ask the same sort of respect to what we say, and we always get it in that spirit.

As to the principles of unionism, we agree on these things, of course, the principles of organization for the rights of the under dog the poor against the rich, if you like, the weak against the strong. That is a thing we men in the medical profession pride ourselves upon we help the poor whenever we can. The principles are all right, but the working out of these principles in unionism are often all wrong and do not have our sympathy. I refer to the boycott, to conspiracy, to intimidation of women and children, to the knife in the back, the blow in the dark, all these things that have brought bloodshed into the field of labor against capital.

Walking delegates?—The only walking delegate we have or ought to have, and I speak seriously, is the spirit of the man of Nazareth, the only man who has set the world the example of perfect usefulness, which we are proud to follow. Whether atheist or christian, Jew or gentile, whether we believe in the bible or not, we must acknowledge the inspiration that shines from that matchless life, the one perfect man, and every one of us, if a true physician, strives to follow that example, because it means usefulness, kindness, unselfishness.

Strikes?—We have no use for them except as directed against error and the evil-doer. What have we to do either with the eight-hour day? We who are at the beck and call of both capital and labor, not for eight hours in the day, but for twenty-four. Have we a quarrel with the capitalist? Not we. He looks too well upon our books. We want more of him. Do we sympathize with the laboring man? Any man in the medical profession in Chicago who does not love to work with his head, his heart, and his hands is not one of us. He ought to be carrying a hod. We are the sympathizers with labor the world over. We are, therefore, on peculiarly neutral ground, as I see it, we are between these two, and they come to us for we have no quarrel with either, we are the court of last resort; to us comes the man of muscle and the man of money, at the last; except the undertaker. It is not against outside oppression that we are organizing stronger and stronger every year, for scientific purposes first, and now through our State and National organization forming plans that in a few years ought to make us a mighty problem in politics. Then we will control our State and city medical institutions, instead of having to go down on our knees and grovel to some pothouse politician. This will be changed by unionism, if you like, in its best sense, organization along fraternal and intel-

lectual lines. As a matter of fact, the developments of the recent past would make it seem as if we should combine ourselves against the evil-doer that is in our midst; not somebody on the outside, but the fellows, not men, on the inside. It may be out of place in this meeting to speak of the notorious article in the Chicago Tribune of Oct. 17th, that has been a torch to set aflame the outraged dignity of this profession within a few days. I will stop right here, because I may say some caustic things, perhaps out of place, considering the subject of the evening's discussion.

Shall I stop?

Members: Go on.

Dr. Corwin: I am not here to discuss the pros and cons, the rights and wrongs of the question of the division of fees, the commission business. There are very wide differences of opinion on that proposition alone, in our State and in our City. You can find that out by talking with your friends on the street confidentially, or you can find public utterances of the best men in the profession, of recent date, writings editorial and otherwise. But let us stand upon this proposition, that the greater medical tribunal in the land, (as well as the lesser tribunals of our State and cities) have crystalized professional opinion in the by-laws of the American Medical Association, which declare emphatically that this whole question of giving and taking a proportion of fees, a commission business, is wrong, wrong in its fundaments and pernicious in its results. I believe personally that such practice is wrong, but I protest, and many others here protest, against the manner in which in recent time publicity was given certain unsavory facts in regard to certain ethical sins, if you please, or errors of judgment of some of our profession. I am here to protest against the traitor in our midst who has dared to steal the good name of certain of our people, to steal what belongs to you and to me in the medical profession of Chicago, and give it, not to our own tribunal, our own judge, our own jury, but to some newspaper. How much he got for it I do not know, I can only guess.

I am aware that there are gentlemen here who believe that that publication was just, expedient, kind; that such a stirring up of the sediment from the bottom of the stream allows the current of public opinion to sweep away and purge the water of its filth. But have we not rather witnessed the pollution of the very fountain head of our professional water supply, the Chicago Medical Society? I think so. It is needless for us to emphasize what has been written and spoken on the proposition, is commission giving or taking wrong or right. Enough has been declared to make it impossible that any man should be ignorant of it. But notwithstanding this public sentiment, which we express; notwithstanding the overwhelming public spirit against this and other evils, there are those amongst us so venal, so selfish, so lacking in high moral purpose; whose consciences are so stultified by the greed for gold that given but the glittering goal, and any means are justified for its attainment. For such the profession should lay in wait with a big stick, but of them and of their doings, it should speak to the public not at all. Are there any amongst us of whom we are ashamed, let us bring them within the pale of our own societies, correct them here ourselves, expel them from here, if need be, ourselves, but let public opinion come after, not before our action. Are there errors of judgment? Those things are to be dealt with according to our own laws, not paraded on the housetop or on public billboards. This is a family matter and should be dealt with in the family circle. If there is any spanking to be done, in the name of decency let us do it in the house and not on the public curb. There are here many besides myself who are ashamed that the Chicago Medical Society has in it any one with such a low standard of morals, who is so much of a coward, so much of a petty sneak, a poltroon, that he could go round to find some foible of his fellow and then give it out to sensational news-mongers, anonymously at that. The press, the unselfish, the pure press may be at fault in this thing. In last Monday's publication it may have distorted the facts; it is very likely. It has done it before, we expect it. Does it not seem that the press looks too often not for truth or falsity, but for sensationalism? The statement of a part of a truth is often as bad in its effaced as the open putting of a lie.

But who is he, is on every tongue? Who is he that has dared to act in this high-handed manner; to betray us. We are on his track and we will find him. Let him shake off that covering of secrecy, come out into the open, and stand in his shirt, that you and I may see whether there is really any manhood in him, or whether as we suspect, there is not, under his shock of hair, a growth of horns, and under his skirts the coil of a barbed tail. For have we not here the track of his cloven hoof? If he comes not out, he is a coward; if he does come out he will have to have better reasons to substantiate his position than any we can think of at the present time.

Gentlemen, there is a great deal to be said on this subject, but I am not going to take any more time. Although this is not the place or time to pass such resolutions, I think it is the concensus of opinion that such a resolution ought to be passed some day severely censuring the man or men who did this thing, or expelling him from the society. I care not what individual it may be, from the humblest in the profession to the highest in the profession, he will be so censured that no man will ever dare such a thing again.

The Chairman: I believe very few have serious objection to the words that have just been spoken. Although the subject was not on the program, if I judge the spirit of the meeting properly it had to come out, it would have been like trying to subdue a revolution that must make itself felt.

Speakers will please understand that we are dealing with the subject of unionism.

Dr. C. S. Bacon addressed the chair and said: I think some of us came here to discuss the sub-

ject of unionism and it is well to keep to that subject. We have been perhaps a little disappointed that the definition of the meaning of unionism has not been made a little more clear. I believe it is hardly fair to consider unionism as it is illustrated in certain trade-unions, as the ideal unionism. I do not believe that the real true, honest leaders of trades-unions believe that the present unions have reached that ideal at all, and I think we ought to consider rather the ideal union than the union as it is at certain stages of its development. So when Mr. Glenn says that one of the important objects of the union is to keep all men on the same level, all on the same plain of intelligence, I believe that is not a fair statement of an ideal union. It may be necessary for certain unions of working men in dealing with employers to insist upon certain even wages, but I do not understand that is the absolute essential principle of unionism and I should hardly think the statement that unionism is a failure, is correct. Trades unionism has certainly, in spite of its mistakes improved the condition of laboring men and I think it would be unfair to say that because of certain mistakes it is a failure. The leaders of trades-unions I believe have certain ideals as to what the unions should accomplish for the betterment of society at large, and so it is possible we may have some principles of unionism in the medical profession that form an ideal to which we can strive. Dr. Butler has given some history of unionism up to the present time. We have seen a development in unionism in the organization of the medical profession in recent years, and we have hopes of a continued development, and what is that except the application of the principle of unionism. Take for example our own local condition. Ten years ago we had medical societies with a dozen to twenty people meeting in the room of a hotel and discussing one or two scientific papers. We did not accomplish very much for the profession at large. There are many things that can be done through organized effort which was not done by that medical society. We have organized the profession of this city until over half of the profession is in a body that we call a society. Why was that done? It was not simply to get some scientific work; it was to improve the condition of physicians, for one thing. I believe that the men who are at the bottom of the organization of the American Medical Association have in mind the improvement of the social and political standing and influence of the physician; they realize that throughout the country a great many of the profession, the majority, do not have the standing they should have and do not exercise the influence they should. We are accomplishing the object of any union; the improvement of society is our object, and we realize what society, what the community at large needs in medical matters, and if we should have the influence to bring those things about we should be a strong union, we should have a stronger union than we have yet reached but which can be reached by adopting some of the principles of unionism. We should seek to improve the standing, the economic condition and the principles of the profession, and we should at the same time strive to increase our own influence, because we feel that we are the ones who have the right to say what shall be done in regard to sanitary measures and the improvement of the health of the community. I confess it seems to me as if this was really a practical gain, and I can hardly appreciate the statement of the Chairman, that our subject tonight is not a serious question, but rather for a little fun. I think if we get on a little broader ground, and not suppose that we must adopt something just like the teamsters' union, perhaps, or something of that kind, but rather strive to build on the broad principles of unionism, we can accomplish something.

It seems to me that while the correcting of abuses that arise in our midst should be done by ourselves and not by others, not out on the streets, still we ought not make an unnecessary attack on the press. We are members of society, of the body politic, and it is not at all strange that the press, which represents all classes of society, should take an interest in affairs that concern them as well as ourselves. While we may justly criticize, if we know of any members of our profession who have been guilty of unprofessional, unethical conduct, still it is not necessary for us to criticize the press, which has done nothing but what it would do in other similar matters.

Dr. W. C. Abbott: I would like to devote the five minutes allotted for discussion of this subject, so far as my position is concerned, to saying (and reiterating) amen to the sentiments that have been expressed here tonight, beginning with the essayists first and extending to those who have so ably discussed the subject in its various phases. To me, we who personally represent the bulk of the profession in this city stand in about the same relation to these circumstances that old Mose, the colored man did, when upon one occasion he stopped the doctor on the street, in a Southern town, and said: "Dr. Johnson, dat old mule of mine, dat old white mule, is powerful sick, and I tought maybe you cud do someting fo dat old mule." "Well, said Dr. Johnson, "what's the matter with the old mule?" Mose told him as well as he could, and the doctor said, "Mose, I'll give you some medicine. Take a broomstick, wrap some brown paper around it, tie it with a string, take some of this powder and put it in, put it up to the old mule's nose and you get down and very carefully blow it into the old mule's nose three times a day."

A few days afterwards Mose met the doctor, who said, "Mose, how is the old mule?" Mose replied, "Dr. Johnson, I don't know jess how de old mule is but I don't feel very well mysef." "What's the matter?" said the doctor. "Well, 'twas dis way" said Mose, "I done fixed de medicin jes as you said and put it up the old mule's nose, but I tell you Dr. Johnson, the old mule he blowed first."

If the medical profession were united, as we ought to be and as was outlined by Dr. Crof-

tan in his most able address, if we were standing by each other, as we should be, working for the betterment of ourselves and humanity, then a circumstance such as is referred to in the later discussion this evening, could not have occurred. What we need is a united profession. We are suffering constantly from the inroads of the charlatan and the quack, from the old woman to the Christian scientist. We are in every respect being beaten down and getting the worst of it. This has continued for many years and it is largely our own fault. The proper thing for the medical profession to do is to be a professional unit—one at heart. Embrace this very psychological moment a time when the lay press is taking a better position today in our interests than we are taking ourselves, and are refusing the advertising of the charlatan and the quack medicine manufacturer and come unitedly to the front filling to overflowing the position which is rightfully ours before the people.

Dr. Denslow Lewis: I appear tonight for the first time in two years at a medical meeting in this city, and I see opposite me my friend, Dr. George F. Butler, who appears here, I think, for the first time in five years. I recall the fact that when we two last met together in this Club there was at our side a genial gentleman, Dr. I. N. Love, of St. Louis, a man whose name symbolized his disposition. I have been thinking of the Medical Mirror that Love edited, and particularly of the title page on which were the words of Hodgen: "If voices from the dead should come to us, the cry would be, more light, more knowledge for our profession." I used to read those words every month when that periodical appeared, and I revolted against that sentiment, as I do now, because I believe it to be untrue. I do not think we need more light, but that we need to use the light that we have. I do not believe we need to know more things to do, but we need to do the things that we know. Now, the medical profession is supposed to be a brotherhood; we speak of the medical fraternity. But what a parody on the name it is when one brother practitioner tries to cut the throat of another. What a farce it is to speak of a fraternity, as the medical profession should be, if one brother tries to rip another up the back. What we need in unionism is not a union as we understand it, or as it exists among trades; we have no trade, we have no business, we are a profession, we are not working primarily for money but for the good of humanity. And I believe there is not a medical man in the City of Chicago who, appreciating the nature of his calling and his true position in reference to the community in which he lives, is not ready to respond at all times to the call of suffering humanity without thought of pay. Certainly for myself I am glad to say that during the twenty-six years I have practiced in Chicago I have never refused to operate on any case that has been brought to me, without regard to remuneration. I believe the medical profession is above all things philanthropic, devoted first of all to the cause of humanity. As medical men have to earn their livelihood from the practice of their profession, they accept fees, but the fee they receive is not a **quid pro quo**, nor in any sense an adequate return for services rendered. The Bible says, all that a man hath will he give for his life, and certainly any money consideration that passes between the medical man and his patient is not an equivalent nor a payment; it is simply an honorarium, and whether that takes one form or another, it is not to be considered an equivalent for services rendered.

The surgeon will get all he can from a patient and then he does not get enough. His business methods are not a subject for discussion for his fee is never an adequate payment for his services. So I think this discussion about fees and the division of fees that has come up is most unfortunate for the good name of the profession, and entirely out of place. I think the men who sent out decoy letters designing to entrap their professional brothers should be discovered and held up to the contempt of the profession. I want to believe that the medical profession is a fraternity. I want to believe that the good name of the profession is dear to every member. When we have organized, as Dr. Bacon says, and the time has come when we should have that kindly feeling one for another which is the due of everyone. Along these lines we should work. In that sense alone is there meaning in the term of unionism.

Dr. Clarence A. Earle, of Desplaines, Ill., said that probably he could speak from a standpoint different from that of anyone present, inasmuch as he was probably the only one present who was a member of a union. In Desplaines the four or five doctors there had formed an association to regulate the fee-bill, and they had had the rates printed on cards, which each member posted in his office. Dr. Earle alluded to the friendly feeling which had grown up among the members of the profession in Desplaines, because of an association together for a common object, although that object had at first been purely a mercenary one. He told a little story of meeting on the train, a day or two after the inception of this medical association, a patient, who said to him: "Well, Doctor, I see that you doctors have formed a trust." "No," said Dr. Earle, "only a union." Dr. Earle reminded the company that, while the medical profession was essentially altruistic, and was certainly not mercenary, yet its members were obliged to earn a living and educate their children with the earnings from their medical practice, and it was in no wise derogatory to professional dignity to sometimes consider the hard bread-and-butter facts.

Dr. Homer M. Thomas: We have had fluently presented to us the precepts and the life of the Great Master as the ideal toward which we should all aspire. In view of the succeeding remarks of the speaker, Dr. Corwin, I question very much whether the lesson of that life has in any sense been applied or considered. Permit me to recite a little couplet that I think should embrace that broad charity, that comprehensive consideration of vital principles

that should govern every life, whether the life of the union man, whether the life of the scab, whether the life of the politician, the journalist or the Doctor.

"There is so much good in the worst of us
There is so much bad in the best of us,
That it hardly becomes any of us
To speak ill of the rest of us."

There may be times when silence is golden, but I want to distinctly resent, much as I regret to, the statement of my friend that the main thing in the profession of medicine is money, **merely** money. We are not tradesmen, we are not in the profession of medicine merely for money, we are supposed to represent a science whose roots run back to the early history of the world, and whose comprehensive and steady progress to-day is exemplified in a decreasing death-rate and in the amelioration of all mankind from the ills by which it is beset. When a professional confrere, no matter what stress he may be under, no matter what difficulties he has to surmount, says here in open meeting that the main thing in medicine is money, he expresses sentiments that I do not think can possibly meet with general acceptance.

The press needs no words of economium or of support from me or from any doctor here. It is to-day one of the greatest agencies for good in the world, and it does as much for charity; it does as much for medicine as any agency of modern times. Think of the thousands of columns that were given gratuitously by the press to the dissemination of the recent tuberculosis symposium. Given freely, given without thought of recompense, valuable space which, if used for advertising, would have brought in hundreds of thousands of dollars, and for what purpose? Merely to ameliorate the sufferings of mankind. The press is the friend of the doctor, and I do not agree with my friend, Dr. Corwin, that it seeks simply for the sensational whether of truth or falsity. The exception will prove the truth of my statement.

It has been said that the profession is carrion upon which to feed the vultures of society. If professional prestige has sunk so low in the breast of any person that he regards himself as carrion, then it is well that the vultures of society might find in him abundant food and nourishment, but the physician who maintains his self-respect and practices upon grounds of professional purity, or at least aims to, can never be considered a carrion of society.

I regret as deeply as any one can the occurrences of the past week. I was one of those considered to be of sufficient alleged professional prominence to receive one of the letters. It was answered in due form, and I wish to resent, as all right-minded, fair-minded men must, the assumption of any self-appointed man or men who think they can in the secrecy of their room, or office, or clique set themselves apart like a Moses upon the mountain and act as judge of the professional probity of their brethren. It is absolutely iniquitous.

I cannot help but think that if any other profession had been treated with disrespect, if they have suffered in any way unjustly, it is largely due to a lack of self-assertiveness, that should come from any physician in his work. I believe the physician is worthy of his hire, and I believe the public will pay the physician what his services are worth. I do not believe that the physician who is anxious to succeed by subserviency, by submission, by crawling is the one who will ever have the respect that his scientific calling and scientific standing entitle him to. Therefore, I believe in the unionism of all good motives, of all good purposes in the idealism of our science; that we are in this world to do the best we can for each other, and that today the civilization which is the beacon light of the twentieth century is a higher and grander and better one that has ever existed. I think that in the interests of our profession, in the interests of all who are striving for higher endeavor, loftier purpose and nobler ideals, we must give them all credit for purity of purpose, and speak ill of no one.

Dr. A. M. Corwin: I feel that as a director of the Club it is proper that I say a few words in addition to what I said before. What I said in regard to the press I said as an individual standing on my own feet. I made no reflection on any individual of the press here, they know that. The press has always received a warm welcome to the Physician's Club. I laid down the platform on which we meet here and speak our minds freely. The reason I said the press may have misrepresented in the matter of Monday is that either the two individuals who went to the Tribune are responsible for giving it that material and no more, or else the Tribune has garbled it by leaving out a most important part. One hundred people received these letters; 82 per cent of these may be considered honest men who either threw the decoy letter into the waste basket, or turned it down, but only eighteen per cent accepted the invitation. Did the Tribune put this proportion plainly or fairly. It published nineteen names of doctors, two of whom the public would from that report consider equivocal in their position, thirteen accepted the invitation while only four names were given of the men who flatly turned the proposition down. Why were not the other twenty-two who declared themselves by letter as emphatically against the commission business given opportunity to express themselves as well as these four.

Dr. Richard M. Fletcher, Jr.: I do not want the members of the Club to place me with a military character I knew of, who, when taking his company into battle said to the men, "Fight like the devil as long as your ammunition lasts, but when it is gone run like an antelope. As I am out of ammunition, I will start now." I agree that this is a serious question, and I want to take a brief moment to put myself on record. There are unions, and there are unions, but if we mean that the medical profession of Chicago is to organize a union in the general acceptation of the word, like some unions I have had experience with, I must say emphatically that I am opposed to any such thing. But if it means that we want to organize ourselves for altruistic purposes and not for commercial gain, if we

want to get together for the protection of ourselves as medical brethren, not in a spirit of holding up our fellow man as a sick individual, but get together to sustain each other and purify our practice, to teach the public to accept us as medical men, as keepers of their bodies and almost of their souls, then I say let us have unity in Chicago and out of it, in the medical profession.

We will never regulate the commercial worth of men's brains, doctors, preachers, lawyers or business men. We are worth as much as our ability is worth, and if we cannot have a club steak we take a round steak, but if we take the club steak we must pay the difference, and so with the sick man. If the sick man wants the surgeon, the specialist or the general practitioner of great ability and reputation, he must pay for him. One doctor might charge one thousand dollars in a case where another doctor would be glad to get a hundred dollars.

The idea of unity is to protect ourselves and our fellow men in an honorable, right way, but the idea of intelligent, reputable, educated, medical men combining together to regulate fees, or to sue or boycott Jones, Smith or Brown because he does not pay his bill, is a reflection upon us.

The press is an exponent of the intelligence of every profession and business and I think it is right to let the public know how we, as doctors, feel. Has it come to the time when we are willing to confess that our only motive in medicine is money getting? Are we ready to admit that our profession is now a trade and that we need trade unionism to protect us? There is not a man in this audience tonight who with his ability and education could not by applying the same energy and determination, the same physical force, to some other calling, make seven dollars to one dollar that he makes today.

Let us be charitable. Let us be true to ourselves, to our profession and to each other. It has been said that there was never an officer cashiered from the United States Army that was not guilty. The officers of the United States Army are so charitable, so wholly true to themselves that they cover every man with a mantle of charity, they treat him as an honest man, until the individual demonstrates beyond the shadow of a doubt his guilt or his unfitness to remain in the service.

What we need in our profesion is charity, and a determination to make the public respect us, and to cease asking forgiveness for things we have not done.

We must respect ourselves and our profession and demand of the general public the same respect. We must teach the people that it is our right and ours alone to say what shall and what shall not be done in all matters of public health and hygiene and sanitation. When we are so united as a profession that each and every one of us are willing to stand on guard against every invasion of our just rights and principles, then will our profession occupy the high position of honor that it so justly deserves. Then we will have one of our number filling the Cabinet position of Secretary of Public Health, and we will have all the honor and glory and money that is our due. But we will not get any of these things in a socalled union.

Dr. Hall, a guest from Bloomington, Ill., spoke: I am only a visitor here and do not feel that it would be in place for me to attempt to make a speech. I have been interested in the remarks made and have made up my mind that the gentlemen who represents the Manufacturers' Association and the gentlemen who are opposed to trades-unions need not give themselves any uneasiness. Judging from the remarks made here this evening, there will be no union of doctors.

I was specially interested in the discussion of the recent Tribune article from the fact that in my home town nine years ago I had occasion to withdraw from the McLean County Medical Society because there was an attempt made to form a schedule of prices and have them published and posted in our offices. I did not approve of it for many reasons,—one was the reason suggested here by several speakers, that we are not tradesmen, not commercial men,—that we are professional men. I also objected to it for the reason that I had the name of charging a little more than the average and I did not want my prices cut down. I believe the medical profession should not grovel in the gutter of commercialism. The medical profession is higher,—it stands higher at the head of the professional world. I believe when there is a disturber in your fraternity you should speak gently, and carry your club. I lunched to-day in a club where the majority of members are lawyers and judges and the recent Tribune article was discussed at this luncheon. I heard one judge say that the matter of dividing fees would be legal in case you took the patient into the arrangement. I had another great interest in this matter because of the fact that in practicing medicine 12 years in Bloomington I have had occasion oftentimes to call on the Chicago profession, and a number of times have brought patients to some of those whose names have recently appeared in the newspapers, but I did not get any fee, and some of these men insisted in the papers that they would be willing to divide the fee. I don't think I got a square deal.

The Chairman: It may be of some interest to say that yesterday in my office a prominent lawyer said that division of fees among lawyers was of daily occurrence. Of course, I do not mention this in order to excuse our profession, but only to show how different standards obtain in different professions.

Dr. A. H. Andrews: I am not an orator to entertain you, nor a moralist to lay down a code of morals for my professional brethren, but I have some thoughts on this subject. I believe the best friend capital has in the world is labor, and the best friend labor has in the world is capital. One cannot get along without the other, and the man who today undertakes in any way to prejudice capital against labor or labor against capital is an enemy to humanity. We can only judge of unionism by its fruits and, judging by the fruits we see, we want none of it. I believe the best friend

the physician has today is the public, and the best friend the public has today is the physician, and any man who does anything to in any way prejudice the mind of the public against the profession of medicine, is an enemy to both.

Dr. Graves: During the last few years my work has been extensively, almost entirely amongst working people. Dr. Butler spoke of the laboring man, the union man, helping along the quack doctors and the doctors who charge by the month. I want to say that there is some excuse. It is my firm belief that the average working people have to pay more for medical services and medicine than they ought to; it is a great burden upon them, any one who has a family has a burden out of proportion to his wages. On the other hand, I do not think the general practitioner among that class of people is overpaid, he is rather underpaid. How are we to get around this difficulty, this evil. I cannot express my thoughts as well as I would like, but this question deserves a good deal of study. I do not see how a union could help this matter but if a man is allowed to dream, it seems to me the time might come when the doctor's work and wages could be allotted to them a little more after the style of other working people. They might have their regular hours of work and rest, and might know what was coming in and figure on it accordingly and not have to tie themselves down as our general practitioners have to do now. They come to meetings like this or even of the Medical Society very seldom, they have to keep hustling day and evening, they cannot leave their work, as a professional man should. It seems to me the time ought to come when it would not only be the pleasure but the duty of a doctor to have two months in the year for post graduate work, and some for recreation to build up the physique.

Dr. Brown, (Wisconsin): In this discussion of unionism, which has brought out the discussion of the late unpleasantness, I would like to say a word for the country practitioner who is being maligned in this as much as is the city practitioner. In my experience as a country physician the majority of cases we bring in here are not wealthy people, we have few wealthy people in the country. I think the profession will bear me out when I say that in place of soliciting a division of fees the country doctor solicits the city physician to cut his fees to meet the requirements of the case. I think in this discussion the country doctor has not received any consideration at all, he is looked upon as a vampire. He should not stand in that light; some consideration is due him, he works hard, gets little for it and when he brings his patient to the city physician explains the circumstances, perhaps the patient has a little farm but very little money, and he asks the city physician to make his fee reasonable. In justice to the specialist I must say that the request is never refused.

Dr. W. M. Fitch: I would like to say a word in reference to Dr. Earle's remarks. He has spoken very frankly for the unionism of the profession to a certain limited extent and in a certain line. He comes from a country town where the physicians know the circumstances of their patients; they know also that they were in competition and that each physician was suffering from this competition, and in a very simple and reasonable manner they agreed upon certain regular fees, which the patients accepted without question. Dr. Earle comes before this Club frankly and gives that experience, but his remarks are resented, I think very unjustly, by the speakers who come later. I do not say that such a method is applicable to Chicago; Dr. Earle thinks it is, I think myself that it is distinctly doubtful, but I do think this, that the physicians in justice to themselves should give more careful attention to the financial part of their work. It is impossible for a physician to do good work unless he receives a good income because he has not the tools to work with, and in order to do good work he must have good tools. He can no more do good work without a good income than a carpenter can work without tools. Certain speakers have taken the stand that we should work from a higher and advanced standpoint, the standpoint of charity. I do not say that we should not, but I do say that in the profession there are very gross commercial evils, with gross injustice practiced by one physician against another along directly commercial lines, and I think when a discussion of this kind comes up a statement made in good faith by a brother practitioner in regard to a certain method which has been found useful in a given locality to correct certain evils, should be received justly and fraternally.

At its next meeting, December 6, the club will discuss the subject, "The Place in Medical Education of the Evening Medical College."

The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.

Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

We call attention particularly to the advertisement of the Biloxi Sanitarium found in our advertising pages. Every winter an increasing number of elderly people and invalids requiring a mild climate fly from the regions of our northern climate and seek the balmy breezes of the Gulf. No better place on that coast can be found than the Sanitarium at Biloxi.

BOOK NOTICES.

THE SURGERY OF THE ABDOMEN.

Appendicitis and Other Diseases About the Appendix.

By Bayard Holmes, M. D., Professor of Surgery in the University of Illinois, of Clinical Surgery in the American Missionary College, Chicago; Attending Surgeon in the Chicago Baptist Hospital. Boards, $2.00 net, prepaid; sold only by subscription. 8vo, 368 pages. 39 illustrations in the text. 7 plates, two of which are in color. D. Appleton & Co., Publishers, 436 Fifth avenue, New York, and 203 Michigan avenue, Chicago.

This book is a portion of the author's forthcoming volume on the **Surgery of the Abdomen,** which will be his second volume on **Surgical Emergencies.**. The Surgery of the Head appeared eighteen months ago.

The part which now appears under the title **Appendicitis and Other Diseases About the Appendix** is an integral portion of the surgery of the abdomen. It follows out the plan adopted in the Surgery of the Head, and presents in full the more important and the more imminent conditions calling for surgical relief. Each topic is illustrated by abundant clinical reports, which are introduced in order to make the presentation as vivid and lasting as possible. The work is largely based upon the author's experience, especially in diagnosis and indications for treatment. It presents the unclouded picture of the disease with all its threatening possibilities, and shows in an orderly and logical manner the attitude of the physician toward the first and each subsequent manifestation of the disease. It puts before him the dangers which threaten the patient, and calls attention to the errors into which the attending physician is likely to be led.

No effort is made in this work to collate the contributions of the profession to this subject, but it gives in a forceful and masterly way the picture of the disease and the indications for its treatment which a logical mind with large experience and extensive reading is bound to assume.

This book, like the author's previous publication, is clear, unmistakable, and fascinating to the reader. The necessary detail is worked in without interrupting the continuity of thought or weighing down the interest of the reader.

The Surgical Treatment of Bright's Disease.

By George M. Edebohls, A. M., M. D., LL. D., Professor of the Diseases of Women in the New York Post Graduate Medical School and Hospital; Consulting Surgeon to St. Francis Hospital, New York; Consulting Gynecologist to St. John's Riverside Hospital, Yonkers, N. Y., and to the Nyack Hospital, Nyack, N. Y.; Fellow of the New York Academy of Medicine and of the American Gynecological Society; Honorary Fellow of the Surgical Society of Bucharest; Permanent Member of the Medical Society of the State of New York, etc. Published by Frank F. Lisiecki, 9 to 15 Murray street, New York, 1904.

A few years ago Dr. Edebohls startled the medical world by his bold proposition to operate for chronic Bright's disease. Dr. Edebohls states that while the time is not ripe for a complete systematic presentation of the subject of the surgical treatment of Bright's disease, yet there is manifest a very active and insistent demand on the part of the medical profession for such facts and information, especially as regards results, as may at present be available concerning the new treatment of so common and fatal a malady as chronic nephritis. To meet this demand as nearly as possible has been the object of this volume. The work is composed in about half its extent of articles contributed by Dr. Edebohls to medical journal literature from time to time, the latter portion of it being devoted to a presentation of the histories of cases operated upon by him, giving these in detail, so that they all can be carefully and analytically studied. Dr. Edebohls closes his interesting volume with an analysis of results in the seventy-two patients whose histories he records, and indulges in the conclusion that the evidence submitted not only justifies the surgical treatment of Bright's disease, but establishes surgery as the main, if not the only, hope of sufferers from a hitherto incurable malady.

Louisville, Minn., Oct. 30, 1904.

Gardner-Barada Chemical Co., Chicago, Ill.:

Gentlemen—My experience with the sample bottle of Uriseptin has been most gratifying. So much so that I shall give you particulars of the case.

Mrs. J——, age 57, for several months has been a great sufferer from a form of eczema and has been under treatment from five or six of the leading physicians of Iowa, with only temporary relief. So discouraged had Mrs. J. become that she had often contemplated suicide to end her misery. She finally came under my charge, and after a thorough diagnosis and examining the urine, I found it contained a large excess of uric acid, and considered that I had found the cause of trouble and pronounced it a clear case of "paraesthesia." I at once put her on your Uriseptin. Before the contents of bottle was taken she reported as entirely free from all itching. The urine has cleared up and in fact, as she puts it, "feels like an entirely different person." I have recommended that she have her druggist get another bottle and continue its use for some time yet and report later.

Truly yours,
(Signed) CHAS. F. BISSELL, M. D.

Urotropin, Methylene Citric Acid, and Urotropin Methylenecitrate (Helmitol or New-Urotropin.)

Prof. Arthur Nicolaier (Deutches Archiv f. klin. Medicin, Vol. 81, 1904), records his very exhaustive studies of these drugs. It is an established fact that urotropin, introduced by him nine years ago, is a most e⅛cient remedy, the number of original papers thereon exceeding 200. This literature confirms all the assertions he made in 1895,—that urotropin in 7½-grain doses dissolved in one-half pint of water, given twice or thrice daily, is harmless and therapeutically effective; that soon after its administration it appears unchanged in the urine; that the urine, without losing its acidity, acquires uric acid-solvent properties and an inhibitory action on micro-organic growth, and that there is often a diuresis.

It is used with good effect in uric acid concretions and in gout. But the most brilliant results are seen in bacterial diseases of the urinary passages, in cystitis, pyelitis, pyelonephritis, and in posterior urethritis. It lessens the pain and dysuria, eliminates the pus from the excretion and, if it is ammoniacal, removes the alkalinity and restores its acid reaction. It is ineffective only in tuberculosis of the urinary tract; and even here it is occasionally useful to combat mixed infection. Urotropin is generally effective in a short time; not infrequently all symptoms disappear permanently or do so when the remedy is resumed and persisted in for prolonged periods. Its efficacy is not dependant on a special urinary reaction; it acts equally well whether the urine is acid, alkaline or neutral. The very first case which I recorded was one of a very severe cystitis with ammoniacal urine.

Urotropin is indicated in all urinary infections, in bacteriuria, especially that of typhoid fever, which occurs in about 25% of all typhoid ceses, usually after the third or fourth week. Orotropin 7½ grains t.i.d. generally removes it in a week.

As a prophylactic before and after instrumentation large daily doses up to 60 grains should be given. Of course, this is too much for steady use. Lately it has been recommended as a preventive of nephritis in scarlatina, and finally it is successful in certain cases of phosphaturia.

In 1901 I experimented with the methylenecitrate of urotropin, which has been inrtoduced under the names of "helmitol" and "new-urotropin." My first tests were made with methylene citric acid alone. Animal experiments showed that after its ingestion no free or loosely combined formaldehyd is present in the urine, and that it did contain some albumin. In a healthy man 1 gram four times daily occasioned severe diarrhoea, and in another 4 grams caused a papulo-vesicular eczema of the skin and cheek. Even with the latter dose, urines infected with micro-organisms and kept at a temperature of 98.6°F. became turbid in two days from abundant bacterial growth. Methylene citric acid, therefore, is decidedly inferior to urotropin. The same objection holds good for the sodium salt of methylene citric acid, citarin.

As to the methylene citric acid salt of urotropin (helmitol), which contains 40.7% urotropin, the usual daily dose is 45 to 60 grains, corresponding in urotropin content to 22½ grains urotropin. Larger doses of helmitol give unpleasant by-effects, such as meteorism and diarrhoea, as Heuss, Mueller, Seifert, Fisch and Von Zellenburg have reported; these are doubtless due to the contained methylene citric acid. Urotropin in doses of 7½ grains t.i.d., dissolved in a tumblerful of water, never causes such untoward actions. The use of large doses of helmitol for prolonged periods is impossible because of dysuria, vesical burning and irritation. Bering has observed renal irritation (albuminuria); Goldberg states that, in contradistinction to urotropin, 45 to 60 grains daily caused hematuria in two out of ten cases.

Like urotropin, helmitol does not affect the acidity of the urine. Both drugs simply hinder the growth of the micro-organisms of ammoniacal fermentation, and hence the normal acid reaction reappears. After the exhibition of sufficiently large doses of helmitol, free or loosely combined formaldehyde is present in the urine. Since this is not the case after the ingestion of methylene citric acid alone, the question is whether this effect is not due to the 40.7° urotropin which helmitol contains.

Mueller made some comparative tests of urotropin and helmitol, from which he concludes that the latter has a greater antibacterial power; but he made the fundamental error of sterilizing his urotropin and helmitol solutions by heat ere he added them to the nutrient media. I have shown that urotropin solutions

split off formaldehyd when opposed to a high temperature; and this is far more so the case with helmitol solutions of equal strengths; for aqueous solutions of it react strongly acid while those of urotropin are feebly alkaline. The helmitol solutions which Mueller added to the nutrient media contained thirty-four times as much formaldehyd as did the urotropin solutions; and this vitiates his experiments. Bruck made very extensive comparative investigations of the two drugs and concludes "that urotropin methylene citrate (helmitol) is no more powerful than urotropin; its effect is dependent on the variety of bacteria and the amount of bacteria in the urine in exactly the same way; and that in very purulent urine it is decidedly weak." Clinical trials prove that in doses which are the co-efficient of the usual urotropin doses, i. e., which are two and one-half times as great as the latter, helmitol is effective in exactly the same diseases in which urotropin is effective and is ineffective in exactly the same cases in which urotropin is ineffective.

To conclude: (1) Both in bacteriological and in animal experiment as well as in clinical tests methylene citric acid proved to be absolutely inert and to cause certain untoward actions. (2) Urotropin methylene citrate (helmitol) has been shown, both bacteriologically and clinically, to be dependent for its therapeutic efficacy upon its urotropin contents. (3) By reason of the contained methylene citric acid, helmitol may cause unpleasant by-effects. (4) As the dose of helmitol is based on its urotropin contents of 40%, the dosage is more than twice as great and consequently more than doubly as expensive.

HEBREW ORPHANS' HOME.

Atlanta, Ga., Dec. 22, 1903.

Messrs. M. J. Breitenbach Co.,
53 Warren St.,
New York City.

Dear Sirs: A feeling of gratitude prompts me to acquaint you with the wonderful success with which the use of your preparation, Pepto-Mangan (Gude), was accompanied in several instances within our direct observation: A nine year old inmate of this institution had for some years been an epileptic. After all the ordinary remedies had been exhausted, we put him, on the recommendation of Dr. S.G.C. Pinckney, on Pepto-Mangan. In the course of a few months, his attacks became less frequent, until they entirely disappeared, whereupon the medicine was discontinued. It was not long, however, before he was again seized with a spasm which recurred in constantly lessening intervals until he had relapsed into his old condition. Once more we put him on your preparation, continuing it this time for a whole year, long before the expiration of which the attacks had again gradually subsided. Since the second discontinuation more than a year has elapsed, and still the lad is hale and hearty, and entirely without a symptom of his malady.

Beyond a question of a doubt, a radical cure was also effected in a number of cases of eczema of the scalp, which had spread in an alarming manner in our "home," and which had baffled the skill of the most experienced specialists. For six long years had we been battling against this scourge in vain, and we probably would still be struggling against it had not the use of Pepto-Mangan (Gude) been resorted to. The circumstances accompanying the above instances conspire to furnish not merely a conviction, but a proof absolute of the efficacy of your preparation. The latter is rather expensive, and we are as poor as an orphanage generally is, yet we feel it a sacred duty to continue the use of Pepto-Mangan whenever indicated.

Believe me, gentlemen,

Most respectfully yours,
HEBREW ORPHANS' HOME,
R. A. Sonn, Supt.

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